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THE CUBAN FISHING INDUSTRY

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BACKGROUND

a. Economic importance of the fishing industry in the economy of Cuba; social and political aspects.

The economic importance of Cuba's fish industry may best be gauged from its commercial production estimated at roughly 40 million pounds annually before the war, 25 million during the war and 30 million since the end of the war. The wholesale value of this commercial production is estimated at about 2.3 and 3.5 million dollars during the respective periods. No accurate data are available concerning production for all ports of the Island; the above estimates are based on the quantity reported for Habana with estimates for the rest of the Island.

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*Foreign Service Clerk, American Embassy, Habana, Cuba, September 20, 1946, (Report No. 372)

The industry permanently employs some 9,000 men and, in addition, provides work for 7,000 more in allied and subsidiary industries. Although fish is an important item in the Cuban diet, nevertheless the total wholesale value of fish production is considerably less than one percent of Cuba's national income.

Cuba's fish resources are exceedingly rich but the industry has not filled the needs of its own population. In normal times imports of cured and canned fish and other sea food amounted to about 20 to 23 million pounds. The reasons for this incongruous situation are manifold. Fishing methods are empiric and slow, and marketing is haphazard. Modern methods of refrigerating, storing and distribution are not employed. Also, the advanced social legislation imposed upon the industry without a concomitant modernization of equipment and of standards of production has resulted in serious handicaps to the industry.

The Cuban Government recently* has shown renewed interest in developing the country's fisheries. It has eliminated or suspended several taxes which discouraged production. It is erecting a plant at Batabano for curing and canning fish and by-products. It has repaired vessels damaged by the hurricane of 1944. It is distributing a limited quantity of lines, hooks and small fishing craft among fishing cooperatives which it fosters. It has also sought amicably to remove obstacles heretofore imposed by Mexico against fishing in its waters. But all these efforts hardly constitute a fraction of what needs to be done.

Large fishing companies look askance upon the Government's aid to fishing cooperatives, and although the companies need modern nets and other equipment for fishing and refrigeration, they are reluctant to make new investments.

The lot of the fishermen is not too good. The task of accumulating a catch with individual hand lines is long and arduous. Much of the catch is lost for lack of refrigeration and, since their returns are on a share basis, they are never certain of a good income. They are enmeshed in a progress-arresting tangle from which they can disengage themselves only if per capita output is increased, and that can be achieved only if commercial companies invest in modern equipment.

b. History of the development of the fishing industry.

The fishing industry in Cuba dates back to the discovery by Columbus in 1492, and evolved from the primitive stages peculiar to each succeeding period. Cuban salt fish was well known during the expeditions for Mexico's conquest and later, when the Spanish flotillas assembled at Habana for the return voyage to Spain.

In 1875 or thereabouts, a fishing vessel from Yucatan became wrecked near Colorados on the Cuban coast. From the shipwreck the Cubans learned of the share-method of "one-third for outfitter and two-thirds for fishermen." It is definitely known that long before 1925 outfitters and fishermen entered into verbal agreements of this nature.

Prior to 1926, fishermen were content with receiving two-thirds of the wholesale price of the catch, usually fixed by the outfitter at about 5 or

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6 cents per pound. In 1926, however, social legislation was introduced which stirred the fishermen and encouraged them to demand that a written contract be drawn whereby fishermen are termed employees of the outfitters rather than catch-sharers, entitled not only to two-thirds of the catch but also to certain other social benefits (see 3b and 14a).

In 1927 there developed a new type of fishermen - the so-called "libre" (independent). They put out to sea, brought their catch and sold it without regard for social legislation or taxation. At present* there are 17 such fishermen in Habana, more or less subject to Government control.

The principal effect of the war was to reduce fishing and increase prices sharply. Submarine warfare off Cuba's coast caused fishing to decline considerably for a while. Increased wages in other work, the scarcities of other meat and reduced output of fish caused prices to soar to twice or three times the pre-war levels. With increased prices, the fishermen's share of the catches rose proportionately, but a simultaneous rise in the cost of living reduced their purchasing power. Nets, lines and other fishing equipment became scarce and are still difficult to obtain.

LOCATION

a. The principal fishing centers are Habana 1/, Batabano, Caibarien, Manzanillo and Cienfuegos. The relative importance of these and other ports shifts from time to time, depending on the runs. A list of all the fishing ports and their reported but inaccurate production in 1936 (the only year for which data are available by ports) is submitted in Appendix I.

b. The most prolific fishing grounds in Cuba reportedly are as follows:

North Coast	South Coast
Arroyos de Mantua	La Coloma
Dimas	Nueva Gerona
Puerto Esperanza	Batabano
Bahia Honda	Cienfuegos
Matanzas	Casilda
Cardenas	Santa Cruz del Sur
Sagua	Manzanillo
Caibarien	
Nuevitas	

A detailed list of the breeding grounds and fisheries, including type of grounds and kinds of fish and sea food obtainable, are submitted in Appendix II.

c. There are practically no commercial fresh-water fisheries in Cuba although some fish are caught in rivers or lakes by country folk for their own consumption. In the early 1930's a number of streams in the southern part of Matanzas and Habana Provinces were stocked with sunfish, carp, big-mouth black bass, trout, and perch from the United States, but dry weather during the past several years reportedly has reduced their numbers.

1/ Mostly Gulf of Mexico catch, consisting of red grouper, red snapper and kingfish.

* 1946

Rivers of importance as breeding grounds are listed below:

Province	Rivers
Pinar del Rio	Galafre, Cuyaguateja
Habana	Mayabeque, Almendares
Matanzas	Canimar, San Juan, Yumuri
Las Villas	Zaza, Agabama
Oriente	Cauto, Guaso

Lakes Ariguanabo and San Antonio de los Banos in Habana Province and the Zapata marsh (Cienaga) in Las Villas Province, are likewise prolific breeding grounds of the smaller species.

EMPLOYMENT

a. Number of workers. It is estimated that there are 9,000 fishermen permanently employed in Cuba. About 500 of these in Habana are members of the only fishermen's union, the Sindicato Unico de la Industria de Pesca. Some 3,000 additional men fish sporadically, depending on whether remuneration in other industries is better or worse. Also employed directly by the industry are roughly 1,000 men, including sailmakers, carpenters, calkers, etc. In addition, about 6,000 men are indirectly employed in the transportation, sale and packing of fish. The number of fishermen officially registered at each port and related data are shown in Appendix III.

b. Remuneration received. Commercial fishermen in Habana usually work in crews of 10 or 12. They receive two-thirds of the wholesale value of the catch plus 9.09 percent as vacation pay, distributed as follows: one full-share (there are usually 10 to 12 full-shares depending on size of crew) for the captain and each of the skilled fishermen; one half-share for inexperienced fishermen; and one fourth-share for novices. The captain also receives a bonus of 10 percent of the outfitter's third. The average annual net income of fishermen in Habana in the last 3 years reportedly has been $1,200, while captains average $3,000. From their wages, the fishermen contribute 5 percent to a retirement fund and the outfitter contributes a like amount.

Fishermen in Batabano work in crews of 5 to 7 men on one-mast sailboats and 7 to 9 men on two-mast sailboats, including jack-of-all-trades who cooks, etc. The crew receives about 35 percent of the retail price of the catch after paying $1.60 per 100 pounds for ice, transportation, etc., and paying the outfitter's third. Fishermen in Batabano have earned as much as $900 net per year, but the average net income ranges between $350 and $500. In Caibarien and Sagua, fishermen reportedly receive five-sevenths of the catch but nothing for vacation pay.

c. Hours and working conditions. On each fishing expedition, Habana fishermen on "viveros" (boats equipped with tank for bringing fish alive) spend from 30 to 40 days at sea in summer and 25 to 27 days in winter; and those on "neveros" (ice-laden craft which bring fish packed in ice) from 20 to 25 days both in winter and summer. While at sea, fishermen are at work every day from 5:30 A.M. till 6 or 7 P.M., either actually fishing or on the alert for signs of schools of fish. Food is paid for by the entire crew on a pro-rata basis. Fish-

ing expeditions on boats from Batabano and other coastal fishing centers usually last 6 or 7 days.

d. Subsistence fishing and angling for sport.

Subsistence fishermen at deep-water ports fish principally for marlin, swordfish, wahoos, petos and dolphin. They use skiffs or round-bottomed open boats from 15 to 18 feet long, provided with small jib and mainsail on a simple mast without rigging. Motor boats are used only to a small extent. Three lines are usually thrown into the water at varying depths. Sandfish are considered the best bait, but mullet, barracuda or pieces of kingfish are also used. The catch usually consists of three or four fish, which are sold to vendors in the markets or retailed in slices on the street. In the country, peasants fish for smaller shallow-water or fresh-water species.

The exact extent of subsistence fishing in Cuba is not known, but it is assumed that it constitutes a source of occupation and income for a great many unorganized fishermen along Cuba's long coastline.

Angling for sport is most popular at Habana, Cienfuegos, Santiago de Cuba, Sagua la Grande and Cardenas, where most of the yachts and other pleasure craft are located. Habana is the principal deep-water sport fishing center.

FISHING VESSELS

a. a., b. and c. - Number, size, propulsion and type.

The register of vessels kept by the Cuban Navy admittedly is not up to date* but the active number can be determined from annual compulsory inspection reports submitted by port captains. The fishing vessels listed in 1935 numbered 7,626 and included craft registered since colonial times but no longer in service; a large number were destroyed by hurricanes, others were lost at sea, and still others were withdrawn during economic depressions.

According to a compilation prepared by the Cuban Navy in September 1946, the vessels actively engaged in fishing at present number 2,509. Nine-tenths are less than 5 tons. About seven-tenths are sail-propelled and the remainder are motor-driven. The number at each port, and details of tonnage and propulsion are shown in Appendix IV.

The fleet of about 60 vessels used for deep-water fishing off the Mexican coast is centered in Habana and consists of 31 ice-laden vessels (neveros) and 29 tank boats (viveros) 1/. The ice-laden vessels reportedly bring a minimum of 10,000 to 12,000 pounds and a maximum of 15,000 to 18,000 pounds per voyage, while the tank-boats bring a minimum of 20,000 to 25,000 pounds and a maximum of 30,000 to 35,000 pounds. All the vessels are sail-propelled except five ice-laden boats which are motor-driven. Vessels average 100 feet long with 23-foot beam. They draw 12 feet of water aft. Under normal conditions they can make about 10 knots. The usual rig is a two-mast schooner, but sometimes a topmast is carried only on the main. Plain sail consists of a large mainsail with a long, over-hanging boom, a foresail, a fore-staysail and jib. A number of tank-ships have the entire mid-part filled with salt water which flows freely through two thousand 2-inch holes at the bottom. Tunny for canning are also fished in deep

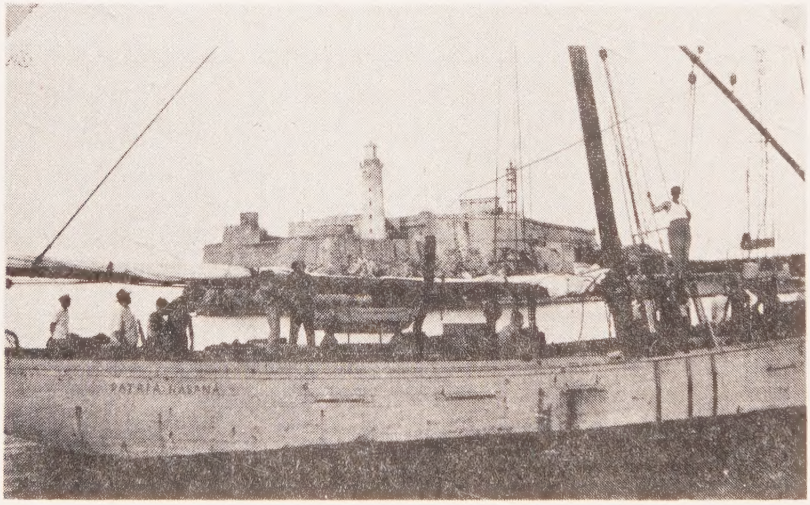
1/ Recently one smack was equipped with electric refrigeration and it is reportedly planned eventually so to equip others. Ice costs $7 to $10 per ton.

*1946

water within three miles off Cuba's north coast and 30 miles from the south coast, in about 10 vessels with both motor and sails. The catch is packed in ice and brought to the canneries.

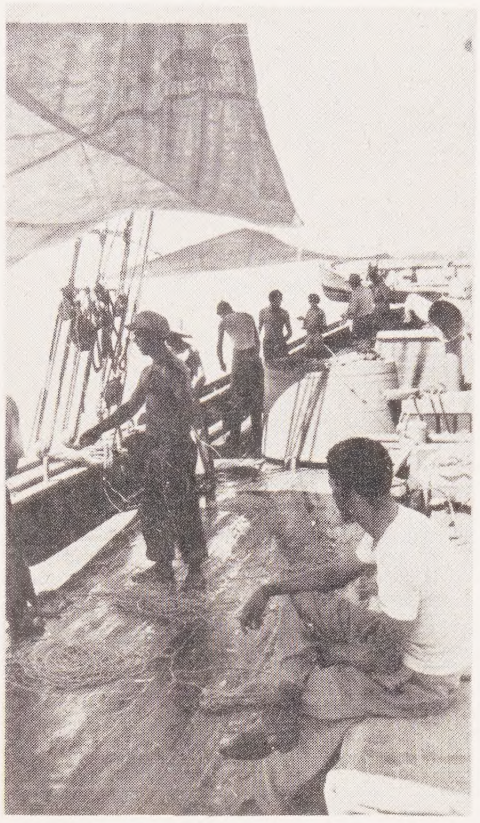
For coastal fishing, one-mast tank-boats (balandros) 30 to 35 feet long which make 5 to 7 knots are mostly used at Batabano, Manzanillo, Caibarien and Cienfuegos. Some of these boats equipped with auxiliary motors make 7 to 8 knots. The catch usually consists of 2,500 to 3,500 pounds of fish. A number of two-mast vessels (guairos) make 5 to 7 knots and bring 4,500 to 6,000 pounds per voyage. In addition, there are a few heavy-duty row-boats, 15 to 18 feet long and equipped with removable mast. Fishermen are anxious to equip all sail-boats with motors to save time and avoid waste, but motors are very scarce and at a premium.

d. Adequacy of fleet. The Cuban fishing fleet and its gear reportedly are fairly adequate to meet present demand of the industry, although there is still some difficulty in securing fishing equipment. The Cuban Government hopes to increase production by increasing and modernizing the country's fishing fleet.



Deep-water fishing vessel. (Courtesy of Revista Industria Pesquera, Habana

FISHING METHODS EMPLOYED



Using individual line and hooks. (Courtesy of Revista Industria Pesquera, Habana)

Offshore. Fish are taken as deep as 35 fathoms, but 20 is the average. Fish taken from greater depths do not survive the trip back to consumption centers. Individual handlines with three hooks are used for fishing deep-water grouper, red snapper and kingfish off the Mexican coast. Fish caught by this method comprised about two-fifths of Cuba's total consumption prior to the war, and roughly one-fourth since then. Fish for canneries (tunny-fish, albacore and bonito) are caught by the Japanese method of individual line and hook similar to that employed on the Pacific coast of the United States.

Inshore. Practically all the fish caught within Cuban jurisdictional waters are fished at less than 20 fathoms. Coastal deep-water fishing and trolling account only for a small fraction.

Beach seine (chinchorre) is the method most commonly used at small depths for fishing muttonfish, lane snapper and other commercially important species, while trap nets (nasas) are used inshore at greater depths for catching the same kind of fish as well as lobsters and morro crabs.

Fishing methods of lesser importance include the following. Buoyed lines (palangra), often two kilometers long with many hooks, are employed at 4 to 6 fathoms, and frequently become entangled in reefs near keys. Gill and trammel nets (transmallos) are used principally for fishing Irish pompano, snook and similar species at low depths and at the mouths of estuaries, rivers and lakes. Large mesh nets (armamentos para lisas) are used especially for catching mullet on a large scale. Throw nets (tarrayas) are used for fishing shrimp, squid, several kinds of sardines and other small and medium-sized fish. Fishermen who use individual lines usually also carry throw-nets to get bait.

SPECIES

The names of fish and sea food produced commercially, as well as the most important fresh-water fish, are listed below:

Salt-Water Fish Produced Commercially

Common Name	Local Name	Scientific Name
Red grouper /1	Cherna de la Sonda	Epinephelus morio
Lane snapper	Biajaiba	Neomaenis synagris
Muttonfish	Pargo criollo	Neomaenis analis
Nassau grouper	Cherna criolla	Epinephelus striatus
Yellowtail	Rabirrubia	Ocyurus chrysurus
Kingfish /1	Serrucho de la Sonda	
Kingfish	Serrucho	Scomberomorus regali
Grey snapper	Cubera	Neomaenis griseus
Red snapper /1	Pargo de la Sonda	
Redhind	Cabrilla	Epinephelus maculosus
Goatfish	Salmonete	
Scamp	Arigua	Mycteroperca phenax
Irish pompano	Mojarra	Xystemaema cinereum
Common mullet	Lisa	Mugil cephalus
California barrd	Guaguanche	Sphyraena argentea
Snook	Robalo	Centropomus undecimalis
Croaker	Corvina	Micropogon undulatus
Sardines	Sardinas	Clupea pilchardus
Spanish mackerel	Pintadilla	Scomberomorus maculatus
Swordfish	Aguja paladar	Tetrapturus albidus
Shark	Tiburon	
Salmon	Salmon	
Tuna	Atun	
Sessie snapper	Pargo sisi	
Dog snapper	Jocu	Neomaenis jocu
Clams	Almejas	Tagilua Gbbus
Squid	Calamares	
Octopus	Pulpo	Octopus americanus
Turtle	Atlantic green turtle	Chelonia midas
Tortoises	Carey, Caguama	
Morro crabs	Cangrejos moros	Menippo ocellata
Crabs	Cangrejos	
Oysters	Ostiones	Ostrea virginica

/1 Gulf of Mexico catch

Salt-Water Fish Produced Commercially

Common Name	Local Name	Scientific Name
Freshwater crawfish	Langostinos	
Shrimps	Camarones	Palaemon jamaicensis
	Fresh-Water Fish	
Biajaca		Parapetaenia tetracentha
Trout	Trucha	Micropterus salmoides
(Small fish)	Dajao	Dajaus monticula
Carp	Carpa	Ciprinus carpio
Big-mouth bass		
Perch	Perca	
	Joturo	Joturus pichardi
	Guabina	Phillipmos dormitor
Eel	Anguila	Anguila rostrata
Robalo	Robalo	Centropomus undecimalis
Mullet	Lisa	

Source: Bureau of Fisheries, Cuban Ministry of Agriculture.

There are, of course, many other salt and fresh-water fish. The names of the most commonly known are included in Appendix II.

FISH TAKEN, 1937 TO 1945

a. Available data on production and consumption of fish in Cuba admittedly are incomplete. The following estimates, however, are based on the existing data plus allowances for incomplete coverage.

Fish landed for consumption as fresh fish dropped from an estimated annual average of roughly 40 million pounds in 1937-41 to about 25 million during the war and 31 million at present.* The principal species taken are, by order of importance, red grouper, lane snapper and muttonfish. A complete list of the kinds of fish taken for consumption in Habana is submitted in Appendix V.

Fish caught exclusively for canning are tunny, albacore, bonito and some sardines; those for salting are grouper, snapper, mullet, shark and some sardines (see Table 1).

Table 1. Estimated commercial production of Cuban fish /1, average 1937-41, annual 1942-45, and estimate 1946.

Kind	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 pounds
Fresh fish /2	39,548	23,673	23,973	26,200	25,538	30,000
For canning/3	85/4	72	117	98	250	464
Salted fish	120	108	186	117	168	200
Total commercial production	39,753	23,853	24,276	26,415	25,956	30,644

See next page for footnotes.

* 1946

/1 Excluding shark and its by-products.
/2 Calculated by adding to the official figures covering consumption in Habana (Appendix V) the estimated consumption of the entire coastal and interior population at a reduced rate of fish consumption. Appendix VI shows admittedly inaccurate official statistics covering fish production in Cuba.
/3 Converted to gross weight of fresh fish on the basis that one pound of fresh fish yields half a pound of the canned product (see Appendix VII).
/4 Average 1940 and 1941.

Sources: Bureau of Fisheries, Cuban Ministry of Agriculture; canneries and commercial fishing companies.

Only an approximate estimate can be made of the production of shellfish and other sea food because official production and consumption statistics are not strictly accurate nor comparable. In the case of crawfish (langostinos), shrimp and clams, the consumption figures are probably more accurate; but as regards turtle meat, squid and octopus, the production figures appear reasonably close. The greatest discrepancy appears in the case of oyster and morro crabs, production of which can only be guessed (see Table 2).

Table 2. Estimated commercial production in Cuba of principal shellfish and sea food other than fish, average 1937-41, annual 1942-45.

Commodity	Average 1937-41	1942	1943	1944	1945
	1000 dozen	1000 dozen	1000 dozen	1000 dozen	1000 dozen
Lobster /1	300	329	493	538	559
Morro crabs /2	12	8	12	10	12
Oysters /3	1,060	3,522	929	793	1,117
	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 pounds
Crawfish & shrimp /4	468	288	430	686	496
Clams /4	155	19	8	16	58
Turtle meat /5	17	65	20	8	23
Squid & octopus /5	21	1	1	/6	/6

/1 See report no. 188, May 17, 1946, "Cuban Spiny Lobster Industry."
/2 Very rough estimate.
/3 Estimated by taking the higher of either the official production figure (Appendix VI) increased by 30 percent or the consumption figure (Appendix VIII) increased by 20 percent.
/4 Estimated on assumption that consumption in Habana (Appendix VIII) constitutes 80 percent of total production.
/5 Official production data. See Appendix VI.
/6 Less than 500.
Source: Bureau of Fisheries, Cuban Ministry of Agriculture.

Accumulation of the catch is a long and arduous task. (Courtesy of Revista Industria Pesquera, Habana)

Three hooks on a line with a fish on each. (Courtesy of Revista Industria Pesquera, Habana)

b. Fish Wasted.

Fish affected with diseases known as "cilama" or "caribe," caught in winter off the coast of Yucatan, are thrown overboard. Outfitters are anxious to know what causes the diseases and how to prevent them.

Considerable interest has been shown by American tanneries in grouper skins, but fishermen say it is too troublesome to skin the fish. Furthermore, consumption patterns preclude the possibility of skinning the fish before sale (see 10, d.).

The heads, shells and residues of lobster and the heads, bones, viscera and residues of canned bonito are all wasted. From time to time attempts have been made to prepare meal for animal and poultry feed, or for fertilizer, but

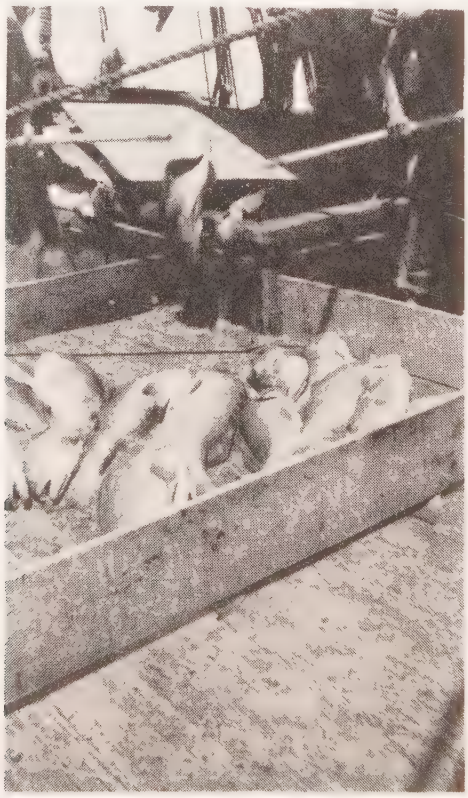
the price obtained never covered the cost of small-scale production /1.

PRODUCTION AND METHODS OF PROCESSING, 1937 TO DATE*

a. Fresh or frozen fillets.

Fresh fillets are prepared by fish vendors only upon request. The fish is cleaned and the head and bones removed, all by hand. The limited demand for fillets is mostly of grouper, codfish, red snapper, muttonfish and kingfish. Small quantities have been shipped sporadically to the United States, and then only when the local market was congested and prices were low. In the past, very small quantities of glazed fillets were also exported to the United States.

Frozen fillets are not prepared or sold in Cuba.



Fish ready for packing in ice. (Courtesy of Revista Industria Pesquera, Habana)

b. Canned.

Fish was canned in Cuba for the first time in 1940 by the largest lobster cannery at La Coloma. In 1944 a factory at Batabano and in 1945

/1 See Report No. 188, ibid.

another at Nueva Gerona, Isle of Pines, followed suit /1. New fish canneries reportedly are being erected on the south coast of Cuba, and the Government also is building a large plant at Batabano, which is expected to be completed within six months for operation by a fishermen's cooperative.

The fish canning season begins in March or April and ends in September or October. The principal species canned are tunny (principally Thunnus alalunga and a small quantity of Thunnus thynnus), albacore (Germo alalunga), and bonito (Sarda sarda and Scomber pelani). All are indiscriminately labelled "bonito" or "tuna" for domestic consumption, depending on local preference. The tunny packed for export reportedly is the Thunnus alalunga. Two of the three fish canneries recently*began to pack sardines, while the largest cannery is still experimenting.

The fish are packed in peanut oil or oil and tomato sauce. The tins used are 307 x 112 and Buffet 307 x 202, and net contents range from 7 to 9.5 ounces. The tins are packed in cases of 24 or 48 each. One pound of fresh fish reportedly yields 8 ounces of the finished canned product. Table 3 shows production since 1940.

Table 3. Production of canned fish in Cuba, 1940 to 1946.

Year	Tunny, albacore and bonito		Sardines cases of 48 8-oz tins
	Actual cases	Equivalent cases of 48 7-oz tins	
	48-tin cases	cases	cases
1940	1,777	1,777	0
1941	2,252	2,252	0
1942	1,721	1,721	0
1943	2,776	2,776	0
1944	1,268	1,268	0
	24-tin cases		
1944	4,013	2,326	0
1945	7,564	4,521	2,500/2
1946	20,830	13,006	5,000/2

Source: Fish canneries.

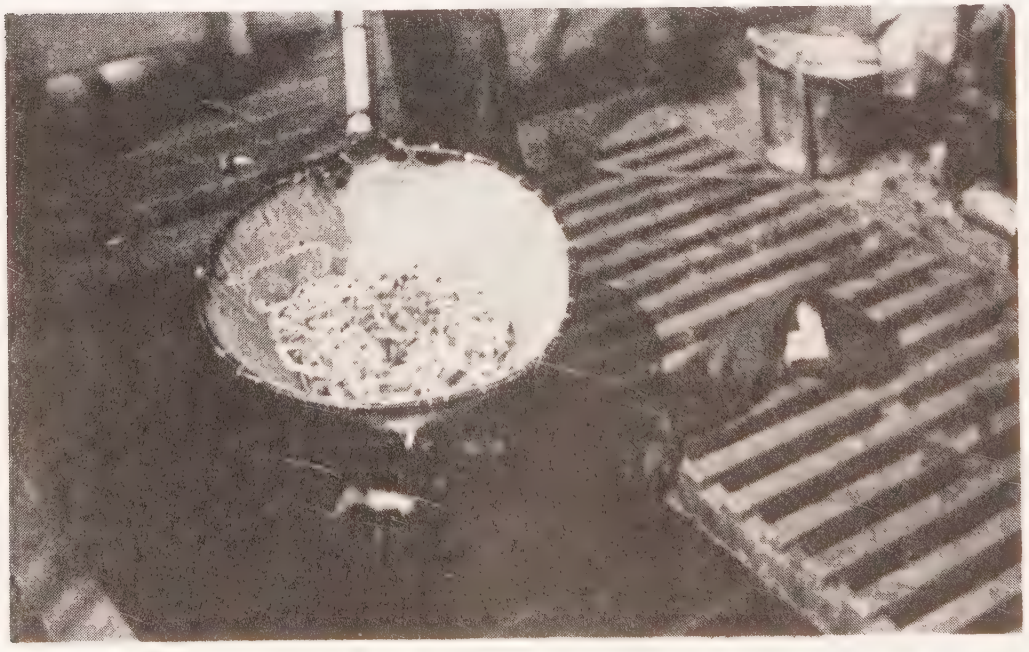
The names of the fish canneries, brands, production and other data are submitted in Appendix VII.

c. Pickled.

None produced.

/1 A description of canneries is contained in report no. 188, ibid.
/2 Estimated.
* 1946

Fishing tunny for canning is a slow process. (Courtesy of Mariano Guas, Habana)



Bait for tunny consists mostly of minnows (manjua sardine). (Courtesy of Mariano Guas, Habana)

Bonito or tunny fish, ready for cannery. (Courtesy of Mariano Cuas, Habana)

d. Dry salted.

Undetermined but small quantities of grouper and snapper caught off the Mexican coast which do not survive the voyage to consuming centers and show signs of decay, as well as coastal fish unfit for sale fresh, are salted. The fish are cleaned and placed between layers of salt in cases or barrels where they remain for 24 hours, at the end of which the salt and moisture of the fish turn into a liquid brine solution. The fish are then cured in the sun and again aired at the pier on arrival at port. This fish is packed in bundles of 300 pounds and sold to wholesale merchants in Habana who usually dispose of it to sugar mills, cane-growers and general stores, for consumption mostly by farm-hands. Production of dry salted fish in 1946 is estimated at roughly 200,000 pounds, of which about 50,000 or 60,000 pounds reportedly consist of mullet. Some sardines are also salted and packed in 25-pound boxes or 200-pound barrels.

Salted shark meat will be discussed in a separate report.

e. Smoked and kippered.

Nomadic fishermen at ports prepare undetermined small quantities of smoked mullet and sell them to grocery stands in the two general markets in Habana, as well as in other cities.

PRODUCTION OF BY-PRODUCTS

a. Fish oil.

The only fish oil produced is that of shark, about which a separate report is being prepared.

b. Fish meal and fish fertilizer.

None produced. See 7-b, Fish wasted.

c. Other by-products.

A number of shark by-products are produced, including livers, skins, fins, etc. A separate report will be prepared.

CONSUMPTION

a. Fresh fish.

Estimates place consumption of fresh fish in Cuba during 1945 at about 26 million pounds, as compared to an average of 40 million in pre-war years. Principal species consumed were roughly as follows (see 7-a and Appendix V):

Kind	1937-41 percent	1945 percent
Red grouper	46	22
Lane snapper	11	12
Muttonfish	8	11

Fresh fish (Cont'd)

Kind	1937-41 percent	1945 percent
Nassan grouper	5	11
Yellowtail	6	8
Kingfish	6	7
Inferior fish	8	17
Others	10	12
	100	100

Consumption of fresh oysters averaged about 1.3 million dozen annually since 1937. Roughly 16 percent of Cuba's lobster catch, or about 50,000 dozen lobsters per year, is consumed fresh locally /1, while consumption of morro crabs is around 8,000 or 10,000 dozen yearly.

Consumption of fresh langostinos (river crawfish) and shrimp together since 1937 averaged close to half a million pounds annually. That of clams, turtle, squid and octopus aggregated almost 200,000 pounds in pre-war years and less than half that quantity in recent years (see 7-a).

b. Canned.

Consumption of Cuban-packed tunny, bonito, albacore and sardines has increased considerably in Cuba since 1940 when production first began, and present* indications are that it will increase further. Except for small exports, Cuba's production which in 1946 consisted of 20,830 cases of tunny, albacore and bonito and about 5,000 cases of sardines, has all been consumed locally (see 8-b and Appendix VII).

Consumption of imported canned fish and sea food during the war was regulated mostly by Combined Food Board allocations. Imports since 1937 are discussed fully in 11-a and 11-b.

c. Cured (salted, smoked, pickled).

Prior to the war, Cuba's annual consumption of imported dry salted fish was about 20 to 25 million pounds, but during the war consumption was regulated by Combined Food Board allocations. For a discussion of all cured fish imports, see 11-a and 11-b.

Consumption of domestic cured fish is covered in 8-d and 8-e.

d. Consumption pattern, customs and prejudices.

Although Cuba's population is mostly Roman Catholic, it is not customary to eat fish on Fridays as is the custom among Catholics in the United States. Consumption increases appreciably over week-ends, when housewives go to the general markets to purchase for the week and include fish among the items purchased. Were modern fish-markets available, the demand probably would increase considerably. A suggestion was advanced by fishing circles that fish might be retailed at the numerous meat-markets, but it never gained headway.

/1 See report no. 188, ibid.

* 1946

Consumption increases remarkably during Lent and, in normal times, during the tourist season.

The scarcity of oil and lard reportedly restricts consumption of fish. Most Cubans cook fish by frying and are faithful to a local saying that "good fish must swim three times - in water, in oil and in wine." Considerable quantities, however, are used in baking and some in soup.

Popular belief ascribes curative qualities to the grouper. The head of the fish is avidly sought after for those with weak nervous systems. Commercial fishermen, however, attribute the larger consumption of grouper to its abundance.

Consumers usually select the fish they want from the lot on display at the stands in the markets and have it weighed, cleaned and scaled. They are wary of ready-made fillets because they fear the meat might have originated from diseased fish. This is one reason why grouper skins are not recoverable commercially.

Salt-fish is consumed principally by the rural population in areas where the facilities for the distribution of fresh fish are inadequate or non-existent. The demand for salt fish is greater during Lent.

Of the imported fish, codfish is preferred above all others because it is cheaper and also because the population, through years of usage, has become accustomed to it. During the war the salting of shark meat and swordfish developed to some extent and these, as well as salted grouper and snapper, substituted for codfish on many tables.

A small variety of oyster, reputedly from Sagua, is prepared in a peppery tomato concoction and served raw in large quantities at typical stands at the entrance of bars and cafes.

IMPORTS AND EXPORTS

a. Fish, other sea food and by-products constitute only about one percent of the value of all imports into Cuba. The total import value rose from an average of 1.4 million dollars during pre-war years to 2.5 million in 1945; and the average value per pound rose from 6.2 cents to 23.7 cents. The quantity, however, dropped from an average of 22.7 million pounds in 1937-41 to only 10.6 million in 1945 (see Appendix XI).

Codfish, stockfish and canned sardines comprised 85 percent (19 million pounds) of the total imports in pre-war years, but only 51 percent (7.5 million pounds) in 1945. Imports of herring and canned tunny combined increased from about one million pounds before the war to 2.4 million pounds in 1945.

Substantial quantities of canned squid, oysters, shellfish and cod-liver oil were also imported. Among the fish of lesser importance in Cuba's imports are hake, salted skate and haddock, and canned salmon and mackerel. Appendix IX shows imports of fish by kinds, averages for 1937-41 and annual for 1942 to 1945.

Fish from the Gulf of Mexico ready for delivery to Habana markets. (Courtesy of "El Mundo," Habana)

Imports from the United States dropped from 5.7 million pounds, or 25 percent of the total imports in pre-war years, to only 1.9 million pounds, or 18 percent of the total in 1945. The chief imports from the United States in 1945 were canned sardines (whose volume, however, declined considerably below preceding years); herring in brine, smoked, salted or pickled; oysters and shellfish; cod-liver oil and others for medicinal use; and canned squid not stuffed. Appendix X shows imports from the United States broken down by commodities.

Imports from Canada rose from 17 percent of the total weight in pre-war years to 40 percent in 1945. Codfish and stockfish continued to make up the bulk, but the increase in the overall imports resulted from larger quantities of herring (in brine, smoked, salted and pickled); canned fish; and cod-liver oil, imports of which were comparatively negligible before the war.

Norway, Iceland, Great Britain and Newfoundland, prior to the war, supplied 56 percent of Cuba's total imports of fish, other sea food and by-products. Since then, the imports from Norway and Iceland, which consisted principally of codfish and stockfish, cod-liver oil, and herring in brine, have dwindled to almost negligible levels; while those from Great Britain and Newfoundland - mainly codfish and stockfish - are nil. Belgium and French Morocco formerly supplied sardines and tunny to Cuba but no longer do so.

Five Latin American countries during the war introduced their products into Cuba, and in 1945 the value aggregated close to half a million dollars, or 19 percent of the total. Venezuela supplied mainly sardines; Chile, sardines, tunny and hake; Mexico, miscellaneous canned fish; Peru, sardines, tunny and salmon; and Argentina, anchovies and other sea food.

Imports from Portugal and Spain declined during the war years, but in 1945 they rose above pre-war levels and accounted for 16 percent of the total weight. These two countries supplied chiefly canned and dry and compressed sardines, stuffed and unstuffed squid, tunny and anchovies.

The average import value per pound rose sharply since 1937 for all kinds of fish and sea food (see Appendix XII).

b. Fishery products are not very important in Cuba's total exports. The quantity of exports declined in 1945 to 1.5 million pounds, or 16 percent lower than in pre-war years (see Appendix XIII). The value, however, practically doubled from roughly $700,000 in 1937-41 to 1.3 million dollars in 1945. The increase was due primarily to inflated prices for sponges and higher prices for lobster and shark products.

Lobster/1 - fresh, canned or cooked - in 1945 totaled nearly a million pounds or 64 percent of the weight of all fishery exports, as compared to 0.6 million pounds or 33 percent of the weight exported in pre-war years. Lobster exports probably will continue to increase as a result of the elimination of price ceilings in the United States and resumption of trade with European countries.

/1 See report no. 188, ibid.

Sponges prior to the war comprised 37 percent of the total weight of fishery products exported, or an average of 665,000 pounds; but owing to a blight which became endemic in 1939, exports in 1945 declined to only about 75,000 pounds or only 5 percent of the total exports. Returns for sponges in recent years, however, have been amazingly high: the export value per pound rose from an average of $0.84 in 1937-41 to $6.73 in 1944 and $7.73 in 1945/1.

Shark skins, meat, livers, liver oil and fins all together now*rank third in fishery exports and have risen from an annual average of roughly 140,000 pounds, worth about $17,000 in 1937-41, to 350,000 pounds, worth almost $100,000 in 1945.

Lesser fishery exports from Cuba include fresh, salted and canned fish; morro crabs, raw and cooked; miscellaneous fresh and canned sea food; and sea-shells.

The United States in 1937-41 took an average of 81 percent of the weight and 94 percent of the value of Cuba's total fishery exports. In 1945 the proportion was slightly smaller: 72 percent of weight and 86 percent of value. Lobster, shark products and sponges made up the bulk.

Exports to Argentina, Canada, Portugal and Spain have consisted almost entirely of sponges and to Mexico of canned lobster. Fishery exports to Sweden were resumed in 1945 with about 33,000 pounds of canned lobster valued roughly at $32,000. Practically none have been exported since the war to France, Germany, Belgium, Holland or Great Britain, which formerly took fair quantities of sponges, canned lobster and shark products.

Appendix XIV shows exports of fishery products from Cuba by countries of destination, average 1937-41, annual from 1942 to 1945.

b. Foreign competition, including analysis and trends.

Exports from the United States to Cuba of canned sardines, which averaged 4.4 million pounds during 1937-41, dropped to negligible levels when shipping was restricted during the war and amounted to only about a million pounds in 1945. The participation of the United States in the total canned sardine imports in 1945 was 36 percent, as compared to an average of 82 percent in 1937-41. The principal suppliers, other than the United States, were Portugal whose imports increased substantially, with 20 percent of the total; Venezuela, Peru and Chile, all newcomers, with 31 percent; and Spain with 7 percent. Appendix XV lists imports of sardines by countries of origin.

The Cuban taste for small sardines in olive oil and the psychological appeal of the small oval or square tins, which Spain and Portugal supply, constitute competitive factors which in the past have been overcome by the lower price of American sardines. Once normal shipments of American sardines are resumed, it is likely that Cuban imports may reach unprecedented levels, unless the small sardine-packing plants in Cuba compete too strongly. At present,*

/1 See report no. 330, ibid.
/2 For background discussion, see report no. 155, August 22, 1933, "The Effect of Increased Cuban Tariffs upon Imports of Canned Fish from the U. S."

*1946

Cuban importers are anxious to resume purchases from the United States. The quality of sardines from the five Latin American countries, particularly from Peru and Venezuela, reportedly is not very good, and the landed cost is too high for them to compete with American sardines/1.

Canned salmon exports from the United States to Cuba dropped from an average of 75,000 pounds in 1937-41 to less than 6,500 pounds in 1945. This decline is all the more striking because in 1924, for example, exports to Cuba of canned salmon from the United States totaled over 660,000 pounds. The war prevented the United States from taking advantage of the reduction in duties from $0.13 to $0.039 net per kilo provided for in the supplementary trade agreement of 1939. Most of the canned salmon imported to Cuba from 1937 to 1941 came from the United States, but since 1942 other countries have entered the market on a small scale. In 1945 Spain was the major supplier with 12,000 pounds or 45 percent of the total; Mexico and Peru followed with 24 percent. The tunny reportedly has temporarily supplanted the American salmon - quantities larger than heretofore were imported in 1945 chiefly from Spain, Portugal and Chile. As soon as American salmon again becomes available, imports from other countries probably will lag behind. Appendix XVI shows imports of salmon and tunny by countries of origin.

Codfish and stockfish exports from the United States to Cuba in 1924 amounted to 3,750,000 pounds. In 1937-41 they declined to less than 3 percent, and by 1945 dwindled to nothing. Prior to the war, Canada and Norway, followed by Iceland, Great Britain and Newfoundland, were the chief participants in the Cuban market. In 1945, however, Canada alone supplied 2,120,000 pounds or 83 percent of all the codfish and stockfish imported into Cuba, probably because of war allocations. The average import value from Canada was 15 cents a pound in 1944 and 15.3 cents in 1945, as compared to 29.3 cents in 1944 from the United States.

Cubans prefer the fancy grades of Norwegian codfish and, to a lesser degree, the British (Scotch) codfish, and it is probable that when these countries can meet this potential demand they will again dominate the market. Trade circles state that American codfish is not sufficiently cured and that the mild cure to which the American trade is accustomed will not stand up in Cuba's climate. The difference in price and quality, therefore, makes it difficult for American codfish to compete successfully. Table XVII lists Cuban imports of codfish and stockfish by countries of origin.

Fresh fish from the United States, which in 1937-41 averaged 88,000 pounds, no longer is imported into Cuba, but neither is it imported from any of the other countries which formerly supplied small quantities, because domestic competition and stiff regulations and taxation effectively bar imports. An American exporter, in order to bring fresh fish in schooners into Cuba, must pay pilotage, anchorage, clearance, customshouse fees, port charges, Public Works tax, consular invoice fee, and other minor taxes. The lack of a ready market constitutes a serious handicap in disposing quickly of imported fresh fish.

Owing to the general scarcity of foodstuffs during the war, squid was exported to Cuba from the United States and elsewhere in increased quantities. Unstuffed squid exports from the United States totaled 1,350,000 pounds in

1/ For background discussion, see report no. 155, August 22, 1933, "The Effect of Increased Cuban Tariffs upon Imports of Canned Fish from the United States."

1944 and 72,000 pounds in 1945, as compared to an average of 75,000 pounds during 1937-41. As soon as other sea foods again become plentiful, Cuban imports of squid will probably drop to former levels.

Herring (brined, smoked, salted and pickled) exports from the United States to Cuba in 1945 were 285,000 pounds as compared to about only one-fourth of that in 1937-41.

Exports to Cuba of American smoked, salted and pickled mackerel stopped entirely, but since preferential rates of duty apply on these commodities when from the United States, it is likely that exports will reach normal or higher levels when supplies again become plentiful.

Cod-liver oil exports from the United States to Cuba in 1945 increased to 165,000 pounds or three times as much as in pre-war years.

The rates of duty applying currently* on fishery imports into Cuba are submitted for ready reference in Appendix XVIII.

Also for ready reference there is submitted in Appendix XIX a list of the principal Cuban importers of cured and canned fish.

PRICES

a. Fresh. The wholesale prices at which commercial fishing companies and independent and subsistence fishermen have sold their catch to fish markets in Habana (which consumes roughly two-fifths of Cuba's total production) have just about doubled since the war started. In the lesser consuming centers in the interior, the situation has been about the same, while at fishing ports prices have been somewhat lower. See Table 4.

Table 4. Wholesale prices of fish in Habana, per pound, pre-war and July 1944 to July 1946.

Kind	Pre-war	July 1944 to July 1946
	cents	cents
Live fish		
Red grouper and kingfish	8	13 to 15
Iced fish		
Red grouper	5	11 to 12
Red snapper	14	20 to 25
Muttonfish	9	15 to 20

Source: Cooperativa de Armadores de Barcos Pesqueros de la Habana, and Cia. Cubana de Pesca.

Retail prices in Habana, according to data compiled by the Cuban Ministry of Agriculture, during the 5 years 1937-41 averaged 12.3 cents per pound for fresh grouper, 16.3 cents for snapper, 18.7 cents for kingfish, and 16.6 cents for dried salted codfish (see Table 5). Prices rose steadily each year and during

* 1946

the first seven months of 1946 were about two and a half times as high as before the war. Prices for fresh fish in other cities throughout the Island are usually about 20 percent lower than in Habana.

Retail prices usually rise during the spring and reach a distinct peak in March and April during the Lenten season. They are usually lowest in December and January.

Table 5. Retail prices of fish in Habana and other cities, 1937 to July 1946.

Yearly average	Fresh grouper	Fresh snapper	Fresh kingfish	Salted codfish
	HABANA			
	cents	cents	cents	cents
1937-41	12.3	16.3	18.7	16.6
1942	16.0	17.8	21.2	29.5
1943	19.0	21.1	25.1	29.4
1944	26.9	25.8	33.2	34.6
1945	32.0	31.3	41.6	39.5
Aver. 7 mos. 1946	32.5	35.7	44.8	44.7
	THIRTY OTHER CITIES			
1937-41	11.2	12.5	13.4	15.4
1942	14.3	15.1	16.3	27.5
1943	16.7	17.6	18.6	30.1
1944	22.4	22.7	25.2	36.8
1945	26.0	26.0	30.6	36.3
Aver. 7 mos. 1946	27.6	28.8	32.3	40.7

Source: Bureau of Index Numbers, Cuban Ministry of Agriculture.

b. Canned. The prices at which fishermen who fish for canneries sell their catch is now* about 10 and 12 cents per pound packed in ice - as compared to 5 and 6 cents in 1940. Canneries, however, usually provide fishermen with vessels and fishing paraphernalia, including line and hook, at no cost. The fishermen pay for the fuel, the ice for packing the catch, and for their food. The bait - usually "manjua" sardine - is obtained at sea.

The wholesale prices of Cuban canned tunny, albacore and bonito since 1940 have been as follows:

Year	Per case of 24 8-oz, 9-oz or 9.5-oz tins	Per case of 48 7-oz tins
	dollars	dollars
1940-41	-	5 to 7
1942-43	-	10 to 16
1944	10 to 12	17 to 19
1945	9 to 12	-
1946	8 to 12	-

* 1946

Retail prices have ranged from 30 cents per 7-ounce tin in 1940 and 1941 to 60 and 65 cents per 8, 9 or 9.5-ounce tins in 1946 (see Appendix VII).

The wholesale price of Cuban sardines averages $9.50 per case of 48 8-ounce tins, and the retail price ranges from 30 to 45 cents.

Prices of available imported canned fish are as follows:

Commodity, country of origin and type of packing	Average wholesale per case dollars	Average retail per tin cents
SARDINES		
United States: 48 16-oz tins	8.00/1	33
48 15-oz tins	6.58/1	28
Portugal: 100 4.5-oz tins	30.00	37
Spain: 40 10.5-oz tins	40.00	85
Chile: 100 4.5-oz tins	28.50	45
Argentina: 100 4.5-oz tins	26.50	40
SQUID/2		
United States: 48 15-oz tins	8.50	30

c. Salted, domestic. The price at which fishing companies sell Cuban dry salted grouper and snapper is between $8 and $12 per 100 pounds, while the prices of wholesale merchants have ranged from $34 to $40 during the war and around $15 or $20 at present.* The range of retail prices also has been wide and sometimes, when represented to be imported codfish, they have reached as high as 45 or 50 cents a pound; at present* they are around 20 or 27 cents.

With increasing arrivals of cured fish from abroad, the price of Cuban salted fish tends to decline.

Imported. At present* the wholesale price of Norwegian fish is between $34 and $36 per 100 pounds and that of Canadian codfish around $31, c.i.f. Habana. Retail prices are from 34 to 46 cents per pound.

FISHERY REGULATIONS AND POLICIES

a. Conservation, protection and management. The basic legislation regulating the fishing industry in Cuba is embodied in Decrees 704 of March 28, 1936, and 973 of May 8, 1939. The decrees constitute a re-statement of laws formerly in effect but also contain a number of new regulations. The outstanding provisions are condensed below:

> Only Cubans may fish for commercial or industrial purposes. Skippers must be native-born. Foreigners may fish only for sport or pleasure.

/1 The OPA reportedly shortly will authorize American canneries to increase prices $0.60 or $1.00 per case.
/2 Turn-over of squid is slow; lack of condiment hinders sales.

*1946

Nassau grouper off Cuba's coast are caught with trap nets such as this (nasa). (Photo by Joseph L. Martinez)

Small fish are packed in wooden boxes at Batabano. (Photo by J. L. Martinez)

Cuban jurisdictional waters for fishing purposes are defined as consisting of 3 miles from the national coastline.

Fish or sea food caught outside Cuban waters by Cuban vessels are considered of national production.

The highest authority for formulating and enforcing fishery policies and regulations is vested in the Chief of Staff of the Cuban Navy, counseled by the National Advisory Commission on Fisheries.

No fishing monopolies or special privileges may be granted to any person or entity.

Approved methods of fishing are provided/1. The use of drag-nets (chinchorros), trammel nets (trasmallos), or seines, is prohibited in rivers or at sea near breeding grounds one mile from the mouth of rivers. Bou (casting of a net by two boats) and catapult fishing are forbidden at all times and places. The use of explosives, carbide, sulphur, and other harmful substances are also prohibited for fishing.

Minimum weights are specified for certain species, while no weight is specified for others. Minimum sizes are also set for crustaceans, mollusks, chelonians, oysters and sponges/2.

It is prohibited to throw into the ocean, rivers or lakes, et cetera, industrial residues or any other refuse harmful to fish and sea life.

Closed seasons for breeding and spawning are fixed from time to time. The species subject to closed seasons during the year 1945-46, as well as others permanently forbidden, are listed in Appendix XX.

Seizures of illegal catches of fish and sea food are not infrequent, in spite of watchful efforts to enforce the prohibitions. Over-fishing of Morro crab has prompted the Government at times to prohibit its exportation.

River-fishing is regulated by the Manual del Cazador y del Pescador Fluvial. It states when river fishing is allowed for the different species and the requirements for fishing in rivers and lakes. Certain species of ornamental fish, including carp, brought into Cuba from abroad, were found to be harmful to the breeding of fresh-water fish in Cuban streams. In July 1932 importation of such fish was prohibited, and fishermen are urged to deplete present stocks.

/1 See Articles 15 to 19 of Decree 704.
/2 See Articles 52 to 55 of Decree 973, ibid.

Weighing red grouper before delivery to retail markets.
(Courtesy of "El Mundo," Habana)

b. International treaties, conventions, etc. Cuba apparently has entered into no treaties or conventions affecting commercial fisheries. In an exchange of notes covering the purchase of Cuban sugar of the 1946 crop, the Mexican Government agreed to enter into some agreement which would permit Cuban fishermen to fish in Mexican territorial waters and, vice-versa, Mexican fishermen to fish in Cuban waters. To date* however, nothing has been done.

Fishing by Cuban fishermen off the coast of Yucatan in the past has caused much friction between the two Governments. Mexico reportedly claims that its territorial waters extend 200 miles offshore, including banks along the Gulf of Mexico detached from the continental shelf and surrounded by very deep water.

Officials in the Cuban Ministry of Agriculture are inclined to have Cuba's territorial waters extended beyond the present three-mile limit, particularly in view of President Truman's proclamation of September 28, 1945, establishing control over areas of the high seas contiguous to the coasts of the United States for the conservation of fisheries.

INTERNAL TRADE PATTERN

a. Methods of marketing. Fish arriving in Habana passes through the only two general markets - the "Unico" and the "Colon." These markets, as well as others in the interior, are supplied by four basic channels:

Fish caught off the Mexican and American coasts

I. A distribution cooperative formed in May 1946 by Habana outfitters.

II. Independent outfitters and fishermen in Habana who dispose of their catch to stands at the markets on a commission basis, usually 0.75 percent.

Coastal fish

III. Commercial companies at the principal coastal fishing centers, chiefly Batabano and Caibarien, which sell through agents in Habana.

IV. Independent crews of coastal fishermen who bring their catch directly to the markets.

Neither the markets nor the suppliers have refrigeration facilities; distribution of fish is therefore haphazard and the turn-over must perforce be rapid. About 30 percent of the catch reportedly is lost owing to lack of suitable refrigeration and the delay in bringing the catch to market.

Industrial residues and other refuse thrown into Habana bay preclude storing live fish in the interior of the bay. Consequently, the cargoes from fishing vessels are unloaded at the entrance of the bay near El Morro onto perforated floats known as "cachuchas" through which sea water circulates freely.

*1946

The floats have a capacity of 5,000 or 6,000 pounds each, and are towed into Habana every night. The cargo is transferred into large baskets weighing about 250 pounds each and carried on porters' heads to the place where the fish are weighed. They are then loaded onto trucks which complete delivery to markets at around 2 A.M. Ice-packed fish reach Habana by sea, rail and highway.

Baskets with 250 pounds of fish are carried to trucks for delivery to market ("El Mundo")

Working arrangement. The large commercial outfitters in Habana operate on the basis of one-third of the catch for the outfitter and two-thirds for the fishermen (see 3-b). In the past the outfitter's third was almost net, but since 1926 the demands of fishermen have reduced the outfitter's share to the equivalent of practically one-sixth because from his third the outfitter must pay for the following:

On one-third of catch, 10 percent bonus for captain of vessel.
on two-thirds of catch, for entire crew:

9.09 percent Vacation Pay
5.0 percent Maritime Retirement Fund
4.0 percent Accident Insurance
0.5 percent Maternity Tax

In addition, the outfitter absorbs one-third of the cost of the following items while the crew pays for two-thirds and for the food:

Fishing paraphernalia
Bait, usually consisting of "machuelo" sardine
Ice for conservation of catch on ice-laden vessels
Fuel, if motor-propelled vessel

Maintenance costs, such as repairs, rope, paint, etc., and taxes are all for account of the outfitter.

In Batabano and Arroyos de Mantua the arrangement is the same as in Habana - one-third for the outfitter and two-thirds for fishermen - but the outfitter contributes no vacation pay nor Maternity Tax.

In Caibarien and Sagua, five-sevenths are for the fishermen and the remainder for the outfitter; social laws reportedly are not observed.

Prices at which the catch of commercial companies should be sold to the stands at the markets are fixed by a committee consisting of the outfitter's representative and two fishermen, each of the three having the right to one vote. Quotations the day before and arrivals at port influence price-fixing.

Faulty distribution by independent and coastal fishermen frequently cause wholesale prices to drop. Often several fishing smacks tie into port at the same time and on such occasions fishermen obtain for their catches ridiculously low prices which are not comparable to the high retail prices prevailing in the market.

Taxes. The fishing industry is subject to the following taxes:

Commercial fishing companies
Vessels' License Tax, from $12 to $15 annually
Port Inspection, $7 to $10 annually
Fumigation, $25 annually
Municipal License Tax
Salt Consumption Tax, $1 per bag of 200 pounds/1
Profits Tax, sliding scale/1

/1 Temporarily suspended; see 14-b

Fish-stand at Colon market, Habana. (Courtesy of "El Mundo").

Retailers:
Sanitation License Tax, about $5 paid only once
Agricultural License Tax, $2 or $3 annually
Municipal License Tax, 6 cents daily
Profits Tax.

Retailing. Most of the fish in Habana are sold at retail in the two large wholesale markets, but many street peddlers buy from these markets and sell direct to homes throughout the city. Fish is also sold at produce markets in various parts of the city.

Shrinkage. From the time the fish is delivered by the commercial fishing companies until it is sold to consumers, there reportedly is a shrinkage of 33 percent in weight of live fish and about 26 percent of fish packed in ice. This shrinkage is absorbed by fish-vendors at the market.

b. Government relief; tax exemption. Owing to the scarcity of food, the Cuban Government decreed exemption of several taxes. Decree No. 643 of March 27, 1946, exempted from the Gross Sales Tax the "fishing and wholesaling of fish, cetaceans, crustaceans, mollusks and sponges, providing the sale is made by fishermen or outfitters; and the cleaning, scaling and retailing of fish." Decree No. 1199 of May 2, 1946, temporarily exempted fishermen and outfitters from payment of the Tax on Profits and the Tax on Salt Consumption (see 14-a, Taxes).

c. Improvements in technology, organization, etc. There is no organization, except the fish cooperative in Habana (see 14-a), and no special methods of financing. The Cuban fishing industry would benefit greatly if American marketing methods were adopted but this, however, would entail changing consumer patterns (see 10-a).

FISHERY RESEARCH

a. Fishery statistics for research purposes - No research.

b. Biological. Towards the beginning of 1946 a project was submitted by the National Fisheries Commission to the Minister of Agriculture for the erection of a Biological Research Laboratory at a cost of $25,000 or $30,000, but an adequate site has not yet been located and the funds have not been appropriated.

c. Technological and industrial. The Cuban Government in September 1945 voted $80,000, supplemented by $19,000 voted in March 1946/1, for the erection at Batabano of a plant for canning and processing fish and by-products. Construction has already begun and the Government expects the plant to be completed by March 1947 for delivery to the Fishermen's Cooperative at Batabano.

In the past, the Government was urged to promote the production in Cuba of mother-of-pearl from sea shells, and fertilizers and forage from algae, but the Government has taken no action thereon.

d. Sociological and economic. The Cuban Government has done some research work to improve the lot of fishermen. A report submitted in December 1941 by the Cuban National Fisheries Commission
suggested, among other improvements, the creation of cooperatives

/1 Decrees 3260, Sept. 15, 1945, and 679, March 28, 1946.

Unloading fish from perforated floats (cachuchas). (Courtesy of "El Mundo")

of fishermen at 12 ports in 6 provinces. Five cooperatives have already been organized - Batabano, Matanzas, La Coloma, Manzanillo and Santa Cruz del Sur, of which the first three are already functioning./1

The Fishery Commission reportedly has distributed among cooperative fishermen about $15,000/2 worth of lines, hooks and medium-sized boats, and intends to distribute an additional $35,000. About $25,000 have been spent in repairing craft at Batabano damaged by the hurricane in October 1944.

e. Nutritional. - No research.

f. Pond culture and fertilization. At the Government's Pisciculture Station near Habana trout, big-mouth black bass, crappie and sunfish are bred in large ponds for stocking lakes and streams.

g. Stocking and rehabilitation of fisheries in lakes and streams - None at present*(see 2-c)

h. Fishery education. The Cuban Government early in 1944 issued decrees authorizing the establishment of a School for Fishermen and a Marine Institute/3. Both plans have remained on paper only. At the Cuban Forestal School near Habana City, two-year courses on fishing and pisciculture are given to about 12 students in Agriculture.

i. Intensification of existing fishing areas - None. About 24 fishing vessels damaged by the hurricane of 1944 were repaired by the Government and in July 1946 turned over to the owners at no cost.

j. Greater utilization of present catch - No research (see 15-c).

OUTLOOK SUMMARY

a. Production. Unless the Cuban fishing fleet is enlarged and modernized and refrigeration is introduced, it is unlikely that production of fresh fish during the next few years will increase beyond 30 or 40 million pounds. Production of canned tunny, albacore, bonito and sardines probably will increase and, in time, may compete with sardines and tuna fish imported from the United States and Latin American countries.

b. Effective local demand for fresh fish will continue about the same as in the past few years - roughly 30 or 40 million pounds - and will go beyond that only if refrigerated fish markets are introduced or if the price of fish declines in relation to prices of other meat.

c. Import requirements in normal times are about 20 to 25 million pounds of dry salted (cod) and 3 million pounds of other cured and canned fish. When

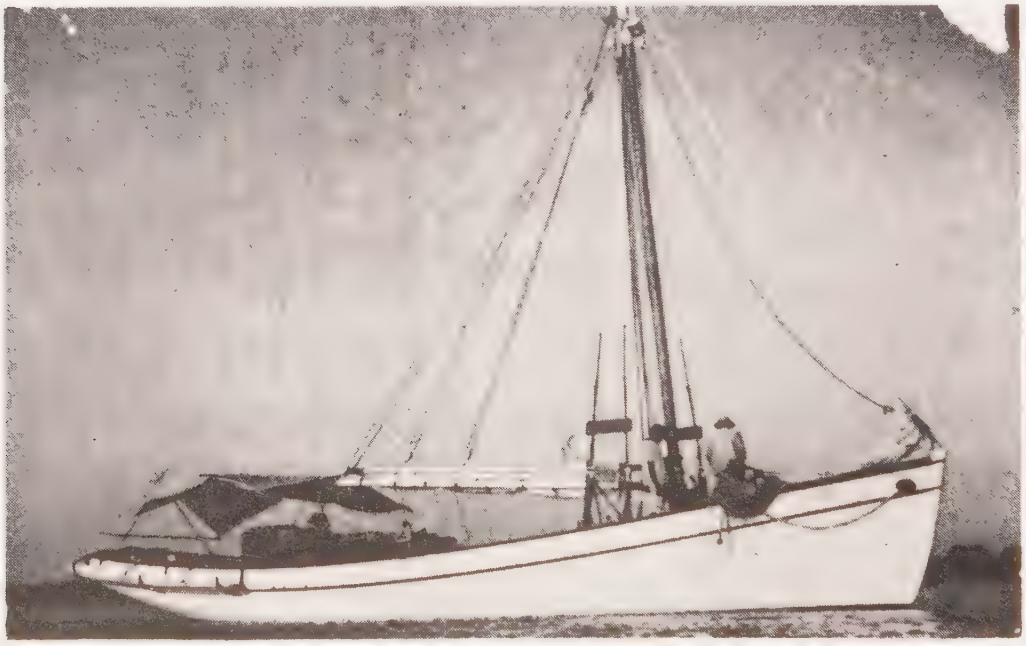
/1 These Government-sponsored cooperatives reportedly have given fishermen a feeling of independence and security but are viewed as competitors by commercial fishing companies and canneries.
/2 Decree 1310, May 5, 1945.
/3 See report no. 1097, April 3, 1944, "Cuba Establishes Sea Institute and School for Fishermen."
* 1946

war-time shortages are eased, the demand for salt fish will continue about the same as before the war (see 11-b) but that for canned products may decline owing to increasing domestic production.

d. Exportable surpluses. Canned tunny, albacore, bonito and sardines may be exported in increasing quantities, depending on prices in Cuba and abroad. The duties applying on these commodities in the United States reportedly hamper Cuban exports.

BIBLIOGRAPHY AND SOURCES

See Appendix XXI



One-mast sailboats are the type mostly used for coastal fishing. (Courtesy of Mariano Guas, Habana)

Fish-monger in Habana sells from house to house. (Photo by J. L. Martinez)

Some heavy-duty row-boats with removable mast also are used for coastal fishing. (Photo by Joseph L. Martinez)

APPENDIX I

Cuban fishing ports and production in 1936

Port	Fish Catch	Value
	pounds	dollars
Habana	7,308,096	754,217
Caibarien	1,194,931	53,811
Santiago de Cuba	748,239	77,885
Santa Cruz del Sur	707,505	40,372
Batabano	652,580	39,630
Trinidad (Casilda)	610,049	22,757
Manzanillo	530,835	21,792
Arroyos de Mantua	453,073	17,056
Cardenas	387,365	14,463
General Peraza	334,315	12,284
La Coloma	325,567	17,153
Tunas de Zaza	259,671	7,000
Nuevitas	245,976	9,690
Cienfuegos	241,326	8,259
Jucaro	227,250	12,226
Matanzas	194,931	14,416
Cabanas	114,955	4,935
Guantanano	97,356	4,561
Gibara	77,512	5,075
Dimas	77,423	2,424
Nueva Gerona	74,372	4,824
Banes	50,083	2,333
Boca de Galafre	43,005	1,219
Playa de Cajio	34,225	1,704
Bahia Honda	29,123	1,110
Antilla	27,693	1,601
Puerto Padre	27,045	1,202
Minas de Santa Lucia	25,309	642
Mariel	24,267	1,286
Manati	22,820	1,348
Sagua de Tanamo	19,372	1,408
Baracoa	7,572	749
Guasimal	4,311	172
La Fe	650	36
Total	15,178,802	1,159,640

Bureau of Fisheries, Cuban Ministry of Agriculture.

APPENDIX II

Cuban breeding grounds and fisheries of fish and sea food

Province and site	Kind of fish and sea food
PINAR DEL RIO PROVINCE (North coast)	
La Fe (weedy, gravelly, white stone)	Shelter for lane snapper and others
Los Sitios Inlet (rocky, mottled with algae)	Breeding grounds for nassau grouper, muttonfish, yellowtail, lane snapper, grunt and others
Punta Colorada, Pinalillo, Garnacha Inlet	Breeding grounds of shallow-water fishes
Soldado Estuary. Guadiana and Verde Rivers	Spawnings of mullet, snook, croaker, oysters
Arroyos de Mantua (bay 3 fathoms deep, mossy)	Lane snapper and sand-bank fishes
Buenavista Key, Juan and Manaties Lakes	Menatees, and several kinds of deep water fishes
Canal Honda and Labra Key Lakes	Gray and lane snappers, small muttonfish, yellowtail, round pompanos
Pancho and Los Alcatraces Lakes	Irish pompano, snook, etc.
Los Arroyos and Mantua Rivers	White fishes
Confluence of Mantua River and Lisa Estuary	Mullet, snook, croaker, Irish pompano, etc.
La Ortigosa (sand banks along coast)	Barrds, picudillas
Santiago River	Mullets, snook, oysters
Granadillo Point to Guanajo Key (shallow, muddy)	Mollusks, croaker, snook, pompano, sardine
San Vicente Cove (4 fathoms, gravelly, mossy)	Grey and lane snappers, yellowtail, muttonfish, redhind
Las Calabazas Nook, Almuerzo Estuary (weedy loams)	Several species of fishes
Mala Habitacion Lake and Rojas Inlet	Oysters and white fishes
La Union Inlet	Mullet, snook, pompanos, croakers, sardine
La Lisa and Moruro Points	Several varieties of sardines: machuelos, bocones
Los Cocos Inlet (loamy, weedy, 4 fathoms deep)	Muttonfish, yellowtail, grey, lane and dog snapper, schoolmaster, etc.
Los Cocos Bay	Shrimps
Herradura Inlet	Redhind, rockhind, also deep water fishes
Dominica Canal	Sharks, black sessie and silk snappers, others
El Mariel (rocky beds with weeds)	Yellowtail, muttonfish, redhind, grey and dog snapper
Fuerte San Elias Point, Angosta Inlet	Lane snapper, muttonfish, grey snapper, yellow grunt, barrds
Bajo Inlet	Clams, cockle, oysters, shrimps, octupus, squid
Boquerones Beach	Turtle and carey tortoise

Cuban breeding grounds and fisheries of fish and sea food (continued)

Province and site	Kind of fish and sea food
Mosquito River, keys in shallow water, shoals along coast and ocean front including Batista, Dimas, Rapado, Diego, Alonso, Rojas	Lane snapper, muttonfish
Puerto Esperanza (shallow area)	Morro crab
Pescadores Point, Canal, Bay and Playuelos Inlet (weedy, loose rocks, shoals)	Grey snapper, yellowtail
Jutias, La Galera, Sta. Lucia Inlet, Ines de Soto Key, Levisa	Important fisheries
Windwardly away from Jutias Key (8 to 25 fathoms)	Enormous schools of Nassau groupers spawn Dec. - Jan.
La Mulata, Megano, El Morrillo	Muttonfish, lane snapper
La Paila	Redhind, rockhind, niggerfish
Morrillo Well (deep water)	Sessies, silk and red snappers, others
Mani-mani River (shallow, muddy)	Shallowwater species of fish
Corojol Point to Majiagua Point (9 ft., weedy)	Muttonfish, yellowtail, grey snapper
Muerto Key to Guano Point (shallow, weedy)	" " " "
Los Colorados Inlet to San Ignacio Point (muddy)	Croaker, snook, pompano, hardhead croaker
San Diego River (shallow outlet)	Clams and cockle
San Diego Bay	Chelonians
PINAR DEL RIO PROVINCE (South coast)	
Cortes Inlet, Bailen, Guyagusteja, Est. Punta de Cartas, Galafre, La Coloma	Muttonfish, yellowtail, lane snapper, goatfish, inferior fishes
HABANA PROVINCE (North coast)	
Baracoa, Santana and Jaimanitas Rivers	Breeding streams, especially at mouths
Almendares River (salty end)	Mullet, pompanos, croaker, etc.
La Chorrera, Marianao Beach (along coast	Muttonfish and lane snapper runs; yellowtail, niggerfish, redhind, Nassau grouper, others
Santa Fe, Jaimanitas, Cojimar, Bacuranao, Guanabo (extensive stretches of beach and coast with mossy tracts, shoals and reefs)	Fisheries scarce owing to lack of keys, but sportsmen fish sardine, barrd, redhind, niggerfish, canary, rockhind, yellowtail and muttonfish; schools of striped tunny and albacore in winter, kingfish and mackerel all year round
Cojimar	Runs of albacore, striped tunny, golden dolphin, deepwater escolar (ruostus pretiosas)
Pajonal	Run of muttonfish

Cuban breeding grounds and fisheries of fish and sea food (continued)

Province and site	Kind of fish and sea food
Habana (Colorado Point, Santa Catalina, Ingenito, Regla, Guanabacoa)(muddy, mossy, rocky beds)	Grey snappers, redhind, yellowtail, grunts, condenado (flavo lineatus), jolthead porgy, Irish pompano, mullet, goggler, shallowwater parrot, Horsejack, hardtail, sardine, grouper, jewfish, tarpon, etc.
Perez Canal	Eels, clams, giant clams
Luyano Canal	Barrd
Martin River	Shrimps
El Morro, Punta Brava	Runs of San Juan and lane snappers
HABANA PROVINCE (South coast)	
Batabano	Lane, grey snappers, yellowtail, muttonfish, grouper, horsejack, hardtail, jurel (carac fallax), grunts, three-fifths, Morro crabs in large quantities
Guanimar, Cajio, Mayabeque	Lane snapper, Morro crabs in large quantities
Largo Key	Chelonians
Broa Inlet (permanent probition to fish)	Natural breeding grounds for all kinds of sea life
ISLE OF PINES	Runs of grouper, muttonfish, kingfish, yellowtail, scamp, black rockfish, black grouper.
MATANZAS PROVINCE (North coast)	
Port of Matanzas	Anchovies, muttonfish, yellowtail, lane snapper, redhind, Irish pompano, squid, octopus. In deep water, sessie, red snapper, cotorro (alegans ocyurus), doncella (iridio radianta), voraz snapper, platynius vorax, and pseudo-pricantus
San Juan, Yumuri and Canimar Rivers	Sardines, manua, crawfish
Malla Point	Spanish mackerel
Cardenas	Muttonfish, yellowtail, redhind, goatfish, dogfish, snappers, schoolmaster, Morro crabs
Pesquero del Pargo, Mono Chico, Mono Grande, Penas de Bernardino, Piedra Key	Muttonfish
LAS VILLAS PROVINCE (North coast)	
Isabela de Sagua	Its famous oysters supply the nation
Caibarien	All kinds of fishes. Small quantities of Morro crabs. Muttonfish, grey snapper, cuberets, caballerote, macabi, yellowtail, lane snapper, redhind, hardhead croaker, grunts, barrds, cibies (paratrautus pisquetus), 3/5 hardtail

Cuban breeding grounds and fisheries of fish and sea food (continued)

Province and site	Kind of fish and sea food
San Juan and Buenavista Bays	Morro crabs, reportedly best in Cuba
Frances Key (Pesquero Viejo, Pesquero Nuevo, Las Almedinas, Cabezo de Gaditano)	Nassau grouper, runs in thick conglomeration. Shoals of sardines, oysters, frequent runs of deepwater shrimps
Cienfuegos (shallow water)	Irish pompano, rudderfish, pomacentrus kyporusi, several varieties of sardines, grunts, mullets for salting
Guanaroca Lake	Clams supply nation, shrimps
Damaji River	Shrimps
Jagua Bank (2, 10, 12 fathoms)	Largest breeding grounds of grouper on south coast of Cuba; tunny, albacore, striped tunny, jurel (carac fallox)
Piedra del Sur, Campos, Gavilanes, Italos	Runs of muttonfish May - July
Guajimico River	Black snapper
Casilda	Lane snapper, yellowtail, cockeye pilot, round pompano, grunts, chaeto diptherus
Manati River	Manatees, oysters, crawfish
Tunas de Zaza	Very large quantities of mullet, anchovies, midget shrimps, eel, joturus and dajus, sabalo (tarpon atlanticus), biajaca (acarus fuscomaculatus), sable (lepturus). Out into the deep water, skate, lebisa (raja laevis), chucho (pteroplaste micrara), obispo (myliobatis espicopus)
CAMAGUEY PROVINCE (North coast)	
Nuevitas	Muttonfish, lane and grey snapper, cubereta (lutjanus cubera), Morro crab
Corona de Maternillo	Nassau grouper
Boca Grande (Ballenates Key)	Mother Pearl Oysters
Punta Alegre, Moron	Cardenal, Mesopuon vorax, dog snapper, cajisoto, peje pluma (calamus megacephalus), doctorfish, female parrot, shallowwater parrot, canary, pompano, mullet, Isabelita (angelicht bysciliaris), Catalinete (chaeto dipterus), jorobao (vomer setipinnus), torito (acanthostiacion quadricormis)
Leche Lake	Manatees
Cruces, Las Palmas, Playa Bonita, Punta de Piedra, Saninal	Chelonians

Cuban breeding grounds and fisheries of fish and sea food (continued)

Province and site	Kind of fish and sea food
CAMAGUEY PROVINCE (South coast)	
Santa Cruz del Sur (Doce Lenguas Labyrinth)	Largest source of lane snapper in Cuba. Kingfish, swordfish, black grouper, vaca (hypoplectrus poma)
Santa Maria Inlet	Striped tunny, doncella (iridio radianta), pompano, kingfish, queen triggerfish
Jucaro	Lane snapper, kingfish, croaker, robalo, Irish pompano, goatfish, grey snapper, chelonians, shark, lija (monocanthus ciliatus)
ORIENTE (South coast)	
Santiago	Red snapper, merus, guasa (promiceops itaira), guacamano (pseudoscarus plumbus), yaifa (lutjanossinagris), cunaro, morena (gymnothorax funelris), dog snapper, scamp, erizo (diodan hystrix), pardela, colorado, enjambre (petrometopon puntatus apiarus), croaker, negrito (melichthys radula)
Guantanamo	Same as above. Also cockle, crawfish and shrimp
Manzanillo	Most important fisheries port in Oriente Province. Kingfish production would suffice to supply nation
Couto, Yara, Guas, Limones Rivers	Largest mullet breeding grounds in Cuba
Buena Esperanza	Shrimps in very large quantities. Snapper, merus, yellowtail, lane snapper, croaker, guabina (philypnus dormitator), robalo
ORIENTE PROVINCE (North coast)	
Gibara (mossy, sandy, muddy)	Cockle, clam, shrimp, oyster, croakers, Irish pompano, other pompanos, hard tail, romeros, snook, sardines, jolthead porgy
Carenero and Los Hornos Inlets	Several varieties of sardines, shrimps
Mangle Point	Turtle, caguama, carey, grunts, hinds, grey snapper, caballerote, grouper, blackrock fish, yellowtail, muttonfish, schoolmaster, hogfish, queen triggerfish, threefifths (chicharros), etc.

Cuban breeding grounds and fisheries of fish and sea food (continued)

Province and site	Kind of fish and sea food
Uveritos (5 to 15 feet deep, clear, sandy and gravelly)	Scamps, black rockfish, queen triggerfish, cockeye pilot, doctorfish, cocuyo (balistes cicatricosus), chelonians
Caletones (5 to 20 feet deep, sandy)	Chelonians, scale fish
Moncalla Point (shallow)	Grunts, mullets, snook, muttonfish, yellowtail, grey snapper, chelenians
Placer de Jaruru (steep, little latitude, greater longitude, sandy, muddy and rocky stretches, 2 to 5 fathoms deep)	Croaker, snook, mullet, other white species

Condensed from Criaderos Naturales and original reports to Cuban Government by Arturo Ojeda Cintra, Chief, Bureau of Fisheries, Ministry of Agriculture.

APPENDIX III

Number of fishermen and allied craftsmen in Cuba
September 1946

Port	Registered at port Capt.'s office/1	Actual estimated/2	Sailmakers, carpenters, calkers, etc./2	Total workers
	number	number	number	number
Batabano	1,200	1,500	300	1,800
Manzanillo	700	875	100	975
Caibarien	612	765	100	865
Cienfuegos	588	735	100	835
Habana	545	720	300	1,020
Mariel	450	565	75	640
Isabela de Sagua	402	500	50	550
Tunas de Zaza	300	375	-	375
Casilda	270	335	-	335
Nueva Gerona	245	300	-	300
Cardenas	220	275	-	275
Sta. Cruz Sur	200	250	-	250
Nuevitas	150	188	-	188
Santiago	103	130	-	130
Jucaro	94	120	-	120
Matanzas	70	90	-	90
Guantanamo	65	80	-	80
Baracoa	48	60	-	60
Puerto Padre	41	50	-	50
Gibara	33	40	-	40
Banes	16	20	-	20
Manati	11	15	-	15
Antilla	3	5	-	5
	6,366	7,993	1,025	9,018

/1 Compiled in September 1946 by the Bureau of Port Captains, Cuban Navy.

/2 Estimated by commercial fishing companies.

APPENDIX IV

Number of fishing vessels in Cuba, by ports, September 1946

Port	Total fleet	Tonnage		Propulsion	
		Less than 5 tons	Over 5 tons	Sail	Motor
	number	number	number	number	number
Manzanillo	325	325	0	118	207
Caibarien	317	302	15	308	9
El Mariel	281	243	38	239	42
Isabela Sagua	208	208	0	193	15
Cienfuegos	179	169	10	125	54
Nueva Gerona	165	130	35	140	25
Sta. Cruz Sur	150	115	35	25	125
Tunas de Zaza	135	135	0	135	0
Batabano	128	72	56	124	4
Casilda	120	120	0	100	20
Nuevitas	100	90	10	95	5
Cardenas	79	38	41	68	11
Jucaro	62	62	0	6	56
Matanzas	59	59	0	24	35
Habana	50	0	50	30	20
Guantanamo	45	45	0	10	35
Puerto Padre	30	30	0	30	0
Santiago	27	26	1	0	27
Baracoa	19	15	4	13	6
Gibara	12	12	0	9	3
Banes	9	7	2	2	7
Manati	6	6	0	4	2
Antilla	3	3	0	3	0
Total	2,509	2,212	297	1,801	708

Bureau of Port Captains, Cuban Navy.

APPENDIX V

Consumption of fresh fish in Habana, average 1937-41, annual 1942 to 1945

Kind	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 pounds	1000 pouhds	1000 pounds	1000 pounds	1000 pounds	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
Red grouper/1	7,207	3,068	2,470	3,834	2,245	714	470	437	1,027	508
Lane snapper	1,765	1,401	1,475	1,307	1,172	160	179	199	239	234
Muttonfish	1,204	738	982	812	1,103	154	151	216	252	325
Nassau grouper	713	612	1,012	628	1,144	72	97	169	170	250
Yellowtail	931	744	736	740	815	88	100	109	154	181
Kingfish	942	668	551	536	778	120	120	125	177	258
Kingfish/1	77	10	27	3	0	11	2	5	1	0
Grey snapper	486	327	475	346	556	38	39	63	53	111
Red snapper/1	159	230	116	243	179	21	47	26	78	57
Redhind and goatfish	68	24	21	7	92	5	3	3	1	15
Scamp	60	64	70	153	47	5	9	11	40	13
Irish pompano	88	27	14	/3	83	6	3	1	/3	10
Common mullet	102	78	17	7	26	6	7	2	1	4
California barrd	59	27	12	3	12	4	2	1	/3	1
Snook and croaker	71	16	9	1	19	5	2	1	/3	2
Sardines	415	96	54	2	32	16	7	3	/3	4
Spanish mackerel	30	31	15	4	66	3	4	1	1	13
Swordfish	77	9	22	7	58	11	1	5	2	21
Shark	76	3	/3	/3	13	4	/3	/3	/3	2
Sessie snapper	0	0	0	15	22	0	0	0	6	6
Dog snapper	2	0	/3	0	/3	/3	0	/3	0	/3
Salmon and tuna	/3	0	1	0	0	/3	0	/3	0	0
Inferior fish/2	1,287	1,260	1,448	1,793	1,697	69	97	131	236	219
Salted fish	/4	36	62	39	56	/4	4	9	8	14
	15,819	9,469	9,589	10,480	10,215	1,512	1,344	1,517	2,446	2,248

/1 Gulf of Mexico catch. /2 Mostly grunt, porgy, hardtail, hardhead.
/3 Less than 500. /4 Not shown
Compiled from annual reports of the Bureau of Fisheries, Cuban Ministry of Agriculture.

APPENDIX VI

Production of fish and seafood in Cuba, average 1937-41, annual 1942 to 1945/1

Commodity	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
Fresh fish, all kinds	17,078	9,398	6,897	10,166	7,222	833	814	709	1,469	994
Salted Fish	0	8	25	/3	3	0	1	2	/3	1
Langostinos/2 and shrimp	156	49	83	66	23	14	4	8	7	4
Clams	7	3	1	1	1	/4	/4	/4	/4	/4
Squid and octopus	21	1	1	/4	/4	2	/4	/4	/4	/4
Turtle meat	17	65	20	8	23	1	4	1	1	3
Shark liver and liver oil	2	30	2	/5	/5	/4	1	/4	/5	/5
Shark meat	/3	398	978	/3	476	/3	8	25	/3	23
Shark fins	/5	3	/5	/5	/5	/5	/4	/5	/5	/5
	1000 dozens	1000 dozens	1000 dozens	1000 dozens	1000 dozens					
Morro crabs	5	4	2	1	1	10	6	3	3	2
Crabs	4	3	6	/5	1	/4	/4	1	/5	/4
Oysters	421	2,709	385	372	859	6	5	6	7	14
Turtle eggs	0	1	/4	0	0	0	/4	/4	0	0
	number	number	number	number	number					
Turtle blood cake	172	80	42	0	0	/4	/4	/4	0	0
Turtle roe	169	0	0	0	0	/4	0	0	0	0
Sharkskins	2	5	/5	/5	/5	2	7	/5	/5	/5

/1 Absence of reports of landings in certain districts renders these statistics of total catch for Cuba incomplete. Official data on consumption of fish and sea food in Habana, however, are substantially correct (see Appendix V). Consumption in Habana reportedly constitutes 40 percent of Cuba's total production.
/2 Small crawfish similar to but larger than shrimps.
/3 Included under "Fresh fish, all kinds".
/4 Less than 500.
/5 Not shown.

Bureau of Fisheries, Cuban Ministry of Agriculture.

APPENDIX VII

Cuba's fish canning industry - general data

Name of cannery:	Fab. Nacional de Conservas	Mariscos del Caribe/1	Cia. Ganadera de La Habana
Plant location:	La Coloma	Batabano	N. Gerona
Began operating:	1940	1944	Sept. 1945
Varieties packed:	Tunny, albacore	Bonito, sardine	Tunny, bonito, sardine
Brands:	"Caribbean Queen" "Reina del Caribe"	Comodoro Carimar	"G"
Tins used: type	307x112, and #2 Buffet	Buffet	Round
size	307x202	307x202	307x202
net contents	7-oz, 9-oz.	8-oz.	9.5-oz.
Production: tunny, albacore, bonito			
Cases of 48 7-oz tins			
1940	1,777	0	0
1941	2,252	0	0
1942	1,721	0	0
1943	2,776	0	0
1944	1,268	0	0
Cases of 24 tins			
1944	458(9-oz)	3,555(8-oz)/2	0
1945	2,779(9-oz)	4,785(8-oz)/2	0
1946	6,450(9-oz)	8,380(8-oz)/2	6000(9.5-oz)
	- cents per gross pound		-
Prices paid to fishermen:			
1940-41	5-6	0	0
1942-43	8-10	0	0
1944	15/3	6	0
1945-46	15/3	10	10-12
Wholesale	- dollars per case		-
1940-41, 48 7-oz tins	5-7	0	0
1942-43 " " "	10-16	0	0
1944 " " "	18	0	0
24 tins	11.5(9-oz)	10-10.5(8-oz)	0
1945 " "	11.5(9-oz)	9-10 (8-oz)	0
1946 " "	11.5(9-oz)	8-8.75(8-oz)	9.45(9.5-oz)
Retail	- cents per tin		-
1940-41	30(7-oz)	0	0
1942-43	45-50(7-oz)	0	0
1944	55 (7-oz)	0	0
	65(9-oz)	0	0
1945	65(9-oz)	60(8-oz)	60(9.5-oz)
1946	65(9-oz)	60(8-oz)	60(9.5-oz)

/1 Some of this firm's production is packed by Angel Lazaro Lebredo, Batabano.
/2 In addition, a total of 6,200 48 8-oz tin cases of sardines have been packed since beginning of operations.
/3 Includes cost of fuel, food, etc., defrayed by company when no catch is obtained; also subsidies to fishermen for idle time.

APPENDIX VIII

Consumption of sea food other than fish in Habana; average 1937-41, annual 1942 to 1945

Kind	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 pounds	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
Crawfish and shrimps	375	230	344	549	397	77	46	91	195	154
Clams	124	15	6	13	46	7	1	1	2	8
Squid and octopus	20	/2	/2	0	1	3	/2	/2	0	/2
Turtle	6	0	1	0	18	1	0	/2	0	/2
Fish roe/1	/2	2	3	2	3	/2	/2	1	/2	1
	1000 dozens	1000 dozens	1000 dozens	1000 dozens	1000 dozens					
Morro crabs	6	4	6	10	12	26	9	11	39	52
Crabs	/2	/2	/2	/2	0	/2	/2	/2	/2	0
Oysters	848	569	743	634	709	41	18	24	19	21
Total value						155	74	128	255	236

/1 Mostly grouper, mullet and scamp.
/2 Less than 500.

Compiled from annual reports of the Bureau of Fisheries, Cuban Ministry of Agriculture.

APPENDIX IX

Imports of fish and sea food from all countries into Cuba, by commodities, average 1937-41, annual 1942-45

Commodity	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
Codfish and stockfish	6,235	1,204	1,086	1,402	1,154	758	317	307	502	413
Herring, brined, smoked, etc.	415	29	28	193	937	28	7	7	45	232
Oysters and shellfish	150	71	4	93	126	58	40	4	83	122
Fresh fish	58	1	/1	0	0	9	1	/1	0	0
Hake	44	76	51	12	36	7	20	16	4	17
Salted skate and haddock	28	24	2	45	/1	3	6	1	26	/1
Sardines, dry and compressed	19	1	0	40	136	2	/1	0	23	70
Other fish, salted, brined, etc.	193	230	/1	89	229	26	58	1	32	95
Cod liver oil and others for medicinal use	151	77	86	106	114	34	28	39	59	48
Crude spermaceti	2	1	.1	1	/1	/1	/1	1	1	/1
Canned sardines, unboned	2,510	2,927	107	913	1,288	333	613	47	660	840
" " boned	24	32	12	4	13	5	9	6	3	12
Canned squid, not stuffed	147	131	395	679	169	39	40	96	187	178
" " stuffed	16	27	0	10	16	7	5	0	16	28
" tunny	92	12	20	25	209	36	8	20	25	288
" salmon	34	32	7	3	12	7	11	3	2	9
" mackerel	24	65	0	2	8	3	11	0	2	4
" anchovies	13	2	3	47	31	7	1	5	42	53
Other canned fish and shellfish	147	32	26	71	356	31	20	17	37	128
Total	10,302	4,974	1,828	3,735	4,834	1,393	1,195	570	1,749	2,537

/1 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX X

Imports of fish and sea food from the United States into Cuba, by commodities, average 1937-41 annual 1942 to 1945

Commodity	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
Canned sardines, unboned	2,015	2,916	60	394	469	230	608	18	99	133
" " boned	11	29	7	/1	/1	2	8	3	/1	/1
" squid, not stuffed	34	151	394	613	33	5	40	95	112	8
" " stuffed	2	27	0	0	0	/1	5	0	0	0
" salmon	33	30	2	1	3	7	10	1	1	2
" tunny	4	/1	/1	/1	/1	2	1	/1	/1	1
" mackerel	24	65	0	3	8	3	11	0	2	4
" anchovies	2	/1	/1	29	/1	/1	/1	/1	10	/1
Other canned fish	61	4	3	1	2	8	3	1	/1	1
" " sea food	47	0	0	2	4	13	0	0	2	3
Oysters and shellfish	146	71	4	90	124	56	40	4	82	122
Codfish and stockfish	44	14	/1	/1	0	10	6	/1	/1	0
Herring, brined, smoked, etc.	39	27	15	68	129	7	7	4	15	33
Fresh fish	40	/1	0	0	0	5	/1	0	0	0
Hake	6	/1	0	0	/1	1	/1	0	0	/1
Mackerel, brined, smoked, etc.	4	/1	0	2	0	1	/1	0	1	0
Sardines, dry and compressed	4	1	0	3	/1	/1	/1	0	2	/1
Salmon, smoked, salted, pickled	3	/1	0	0	0	1	/1	0	0	0
Skate and haddock, salted	1	0	0	/1	1	/1	0	0	/1	/1
Other fish, dry and salted	18	7	0	9	25	4	2	0	4	4
Live fish and chelonians	/1	/1	/1	0	/1	/1	/1	1	0	/1
Cod liver oil and others for medicinal use	27	35	41	32	75	8	12	16	25	30
Crude spermaceti	1	1	1	1	/1	/1	/1	1	1	/1
Total	2,566	3,358	527	1,248	873	363	753	144	356	341

/1 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XI

Imports of fish and seafood from countries other than the United States, average 1937-41, annual 1942-45

Country and commodity	Average 1937-41	1942	1943	1944	1945
	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos
Canada					
Codfish and stockfish	1,722	917	1,074	1,241	961
Herring in brine, smoked, etc.	14	2	13	120	589
Other fisheries and by-products	39	179	81	164	388
Total	1,775	1,098	1,168	1,525	1,938
Latin America/1					
Sardines, canned, dry and compressed	1	0	52	223	461
Tunny	/2	11	18	22	42
Other	2	31	29	36	247
Total	3	42	99	281	750
Spain and Portugal					
Sardines, canned, dry and compressed	368	/2	0	318	435
Squid, stuffed and not stuffed	125	0	0	68	152
Tunny	75	0	/2	3	155
Anchovies	11	/2	1	15	30
Other	61	5	0	45	24
Total	640	5	1	449	796
Norway					
Codfish and stockfish	1,819	0	0	0	0
Cod liver oil	103	0	0	0	2
Herring in brine	358	0	0	0	39
Other	53	0	0	0	0
Total	2,333	0	0	0	41
Iceland					
Codfish and stockfish	918	115	9	39	15
Other	100	158	0	3	0
Total	1,018	273	9	42	15
Newfoundland					
Codfish and stockfish	912	152	2	0	0
Other	2	0	0	0	0
Total	914	152	2	0	0

/1 Chile, Venezuela, Argentina, Peru and Mexico
/2 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XI (Cont'd)

Country and commodity	Average 1937-41	1942	1943	1944	1945
Great Britain					
Codfish and stockfish	792	0	0	0	0
Other	56	2	1	0	/2
Total	848	2	1	0	/2
22 Other countries	205	44	21	190	421
Sub-total	7,736	1,616	1,301	2,487	3,961
United States/3	2,566	3,358	527	1,248	873
Total all countries	10,302	4,974	1,828	3,735	4,834

/3 See Appendix X.

APPENDIX XIJ

Average value per kilo of fish and seafood imported into Cuba, 1937 and 1945.

Commodity	United States		All countries	
	1937	1945	1937	1945
	- cents per kilo -			
Codfish and stockfish	13.3	-	11.5	25.8
Herring	17.4	25.4	5.2	24.6
Oysters and shellfish	40.0	98.1	19.8	9.7
Fresh fish	25.4	-	22.9	-
Hake	29.5	147.0	11.1	45.6
Salted skate and haddock	-	33.0	9.7	-
Sardines, dry and compressed	19.5	48.0	13.1	51.0
Canned sardines, unboned	9.9	28.4	21.0	86.3
" " boned	13.0	106.0	21.6	94.9
" squid, stuffed	-	-	46.7	175.9
" " not stuffed	18.6	25.1	46.0	124.7
" tunny	44.5	151.8	36.1	137.6
" salmon	14.9	55.1	69.5	75.7
" mackerel	-	48.6	-	-
" anchovies	38.7	113.5	53.4	172.4

Calculated from foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XIII

Exports of fishery products from Cuba, by commodities, average 1937-41, annual 1942 to 1945

Commodity	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
Sponges	303	54	104	70	34	557	602	962	1,044	582
Sponge cuttings	91	8	6	7	9	5	7	12	4	5
Lobster, canned	102	145	232	231	280	55	184	349	439	508
" fresh	168	113	164	223	118	58	40	79	95	41
" cooked	0	0	0	27	40	0	0	0	16	37
Shark skins, salted	39	40	43	45	46	11	13	14	11	14
Shark livers, salted	17	53	86	80	69	3	21	38	33	29
" " oil	0	0	21	62	36	0	0	13	38	45
Shark fins	7	4	4	7	8	3	3	3	5	10
Shark meat, salted	0	0	1	1	0	0	0	/1	/1	0
Fresh fish	70	24	9	11	20	14	5	2	4	6
Salted fish, dry	0	0	7	4	2	0	0	3	2	1
Canned fish	0	0	17	1	1	0	0	27	2	1
Morro crabs	8	1	3	/1	2	4	/1	2	/1	1
Cooked crab	0	0	0	3	4	0	0	0	1	3
Other fresh sea food	4	4	2	0	/1	2	1	/1	0	/1
Other canned sea food	5	25	4	/1	10	2	11	2	1	8
Sea-shells	0	0	81	3	7	0	0	48	3	1
Total	814	471	784	775	686	714	887	1,554	1,698	1,292

/1 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XIV

Exports of fishery products from Cuba, by countries, average 1937-41, annual 1942 to 1945

Country	QUANTITY					VALUE				
	Average 1937-41	1942	1943	1944	1945	Average 1937-41	1942	1943	1944	1945
	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 kilos	1000 dols.	1000 dols.	1000 dols.	1000 dols.	1000 dols.
United States	658	461	761	753	642	524	855	1,510	1,553	1,116
Canada	8	2	3	3	1	9	22	23	37	27
Sweden	7	0	0	0	15	1	0	0	0	32
Spain	/1	0	/1	1	2	1	0	/1	16	27
Mexico	2	/1	0	11	11	1	/1	0	25	27
Argentina	4	1	1	2	2	11	6	13	30	31
Switzerland	2	0	0	/1	0	4	0	0	13	0
Portugal	/1	0	0	1	/1	/1	0	0	12	6
Great Britain	13	0	0	0	/1	17	0	0	0	2
Germany	46	0	0	0	0	57	0	0	0	0
France	41	0	0	0	0	52	0	0	0	0
Belgium	12	0	0	0	0	15	0	0	0	0
Holland	7	0	0	0	0	10	0	0	0	0
Other countries	14	7	19	4	13	12	4	8	12	24
Total	814	471	784	775	686	714	887	1,554	1,698	1,292

/1 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XV

Imports of sardines into Cuba, by countries of origin, average 1937-41, annual 1942-45

Kind and country	Average 1937-41	1942	1943	1944	1945
	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos
Canned, unboned					
United States	2,015	2,916	60	394	469
Portugal	213	0	0	280	261
Spain	134	/1	0	2	82
Venezuela	0	0	0	27	347
Peru	0	0	0	0	37
Chile	0	0	0	146	23
Canada	/1	0	0	0	52
Others	148	11	47	64	17
Total	2,510	2,927	107	913	1,288
Canned, boned					
United States	11	29	7	/1	/1
Spain	6	0	0	/1	12
Belgium	5	0	0	0	0
Others	/1	3	5	4	1
Total	22	32	12	4	13
Dry and compressed					
United States	4	1	0	3	/1
Portugal	12	0	0	36	79
Chile	0	0	0	0	54
Others	3	0	0	1	3
Total	19	1	0	40	136
Total sardines					
United States	2,030	2,946	67	397	469
Portugal	225	0	0	316	340
Spain	140	/1	0	2	94
Venezuela	0	0	0	27	347
Peru	0	0	0	0	37
Chile	0	0	0	146	77
Canada	/1	0	0	0	52
Belgium	5	0	0	0	0
Others	151	14	52	69	21
GRAND TOTAL	2,551	2,960	119	957	1,437

/1 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance

APPENDIX XVI

Imports of salmon and tunny into Cuba by countries of origin, average 1937-41, annual 1942-45

Kind and country	Average 1937-41	1942	1943	1944	1945
	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos
Canned					
United States	34	30	2	1	3
Spain	0	0	0	0	5
Peru	0	0	0	0	2
Argentina	0	2	5	0	/1
Mexico	0	0	0	0	1
Chile	0	0	0	2	/1
Others	/1	0	0	0	1
Total	34	32	7	3	12
Smoked, salted or pickled					
United States	3	/1	0	0	0
Others	0	0	0	0	0
Total	3	/1	0	0	0
Tunny					
United States	4	/1	/1	/1	/1
Spain	37	0	/1	/1	112
Portugal	38	0	0	3	43
Peru	0	0	0	6	5
Argentina	0	0	18	3	0
Mexico	/1	11	0	0	2
Chile	0	0	0	13	36
Others	13	0	0	0	11
Total	92	11	18	25	209

/1 Less than 500

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XVII

Imports of codfish and stockfish into Cuba by countries of origin, average 1937-41, annual 1942-45

Country	Average 1937-41	1942	1943	1944	1945
	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos	1,000 kilos
United States	44	14	/1	/1	0
Via United States, origin undetermined	9	3	3	121	177
Canada	1,722	917	1,074	1,241	961
Norway	1,819	0	0	0	0
Iceland	918	115	9	39	15
Great Britain	792	0	0	0	0
Newfoundland	912	152	0	0	0
Others	19	3	0	1	1
Total	6,235	1,204	1,086	1,402	1,154

/1 Less than 500.

Foreign trade statistics, Cuban Ministry of Finance.

APPENDIX XVIII

Rates of duty applying on fish imports into Cuba

Tariff Item Number	Commodity	Maximum Tariff	General Tariff	U.S. pref.	Tariff for U. S.
		dols. per 100 kilos	dols. per 100 kilos	percent	dols. per 100 kilos
102A	Cod liver oil and others for medicinal use, when in containers of more than 5 kilograms, and not constituting a pharmaceutical specialty (Aceita de higado de bacalao y otros de uso medicinal).....	4.00 plus 3% Public Works surcharge	2.00	20	1.60
102B	Curde spermaceti (Espermaceti and bruto).....	2.00 plus 3% Public Works surcharge	1.00	20	0.80
188	Live fish and chelonians, the importation of which is not expressly prohibited, or which are not considered harmful (Peces y quelonios).....	Free	Free		Free
247A	Codfish and stockfish (Bacalao y pez palo)/1.....	11.00	5.50	25	4.125
247B	Salted skate, haddock, and sardines, dried and compressed (Lisa salada, robalo y sardinas secas y prensadas)/1..	7.00	3.50	25	2.625
247C	Hake and other similar fish dried and salted, not specifically classified (Pescada y otros analogos secos y salados, no tarifados especialmente)/1	8.00	4.00	25	3.00
248	Herring in brine, smoked, salted or pickled (Arenques en salmuera, ahumados, saladas o escabechados)/1...	2.60	1.30	25	0.975
249	Mackerel, in brine, smoked, salted or pickled (Macarelas, en salmuera, ahumades, saladas o escabechadas)/1...	5.20	2.60	35	1.69
250	Salmon, smoked, salted or pickled (Salmon ahumado, salada o escabechado)/1	14.00	7.00	25	5.25

(continued)

/1 Tare allowance: Boxes or barrels: 10 percent; bags, 2 percent

APPENDIX XVIII (Cont'd)

Rates of duty applying on fish imports into Cuba (continued)

Tariff Item Number	Commodity	Maximum Tariff	General Tariff	U. S. pref.	Tariff for U. S.
		dols. per 100 kilos	dols. per 100 kilos	percent	dols. per 100 kilos
251A	Oysters of all kinds and dried or fresh shellfish (Ostras de todas clases y los mariscos secos o frescos.....	10.00	5.00	20	4.00
		Public Works Surcharge, 10%			
251B	Fresh fish (Pescado fresco).....	Free	Free		Free
	Fish or shellfish canned in oil or in any other form, in tin or other containers:				
270A	Anchovies (Anchoas)/1.....	6.00	3.00	25	22.50
270B	Tunny (bonito y atun)/1.....	30.00	15.00	25	11.25
270C	Squid, not stuffed (Calamares sin relleno)/1.....	30.00	15.00	25	11.25
270D	Squid, stuffed (Calamares con relleno)/1	80.00	40.00	25	30.00
		Public Works surcharge, 10 percent.			
270E	Sardines, not boned, in tomato sauce or oil, of common or ordinary class (Sardinas con espinas, en tomates o en aceite, de clase ordinaria o corriente)/1.....	8.00	4.00	40	2.40
270F	Sardines, boned, smoked, dressed or prepared in any form, or those which while not coming under the foregoing description are fancy goods (Sardinas sin espinas, ahumadas, alinadas, o preparadas an cualquier forma, o las que sin runir estas condiciones sean de elaboracion fina)/1.....	60.00	30.00	25	22.50
270G	Salmon/1.....	40.00	20.00	35	3.90

Note: The U. S. preferential of 35 percent on the General Tariff of $0.20 does not make $0.039, but said preferential and U. S. duty are submitted exactly as given in the Supplementary Agreement of December 18, 1939, with the United States.

(continued)

/1 Tare allowance: In boxes and other containers, 15%

APPENDIX XVIII (Cont'd)

Rates of duty applying on fish imports into Cuba (continued)

Tariff Item Number	Commodity	Maximum Tariff	General Tariff	U. S. pref.	Tariff for U. S.
270H	Other fish and shellfish, not specifically classified (Otros pescados y mariscos no tarifados especificamente)/1.....	24.00 Plus advalorem duty of: 40%	12.00 20%	30	8.40 14%
		Plus Public Works surcharge 10 percent			
	Note: Importation is prohibited of the class of squids known as "chocos" and of cuttle-fish.				
270I	Mackerel (Escombro)/1.....			30	2.80
	Note: This is a sub-item added by the Supplementary Agreement of December 18, 1939, with the United States, which shows only the U. S. preferential and the duty for the U. S. Imports from other countries are dutiable under Item 270H, according to Customs circular no. 73 of May 24, 1945.				

/1 Tare allowance: In boxes and other containers, 15 percent

Cuban Customs Tariff; English edition by H. L. Lewis, Habana; Executive Agreement Series nos. 67, 165 and 229, U. S. Government Printing Office, and U. S. Department of State Publication 1787 of 1942, "Reciprocal Trade Agreement...."

APPENDIX XIX

Names and addresses of Cuban importers of canned and cured fish

Habana City

Swift & Co., Oficios 452
Armour & Co., Desamparados 166
Pelaez Pirez y Cia., Avenida de Mexico
Tous & Co., Pila 160
Roza Menendez & Co., Muralla 63
Aguilera Marganon y Cia., Perez 1
Galban Lobo & Co., Obispo 202
Almacenes La Cruz Verde, Calle Aspuru ent. Fabrica y Chucho
J. Perez, S.A., Belgica 818
Marcelino Gonzalez y Cia., San Ignacio 451
Suarez Remos & Cia.
Sanchez Loret de Mola y Hno., Linea del Ferrocerril
Astorqui y Cia., Obrapia 111
Suc. F. Suarez y Cia., Baratillo 9
Prado Hnos., San Ignacio 316
Acosta y Cia
Juan Pedro Puig, San Ignacio 65
Suero Y Cia., Oficios 58
Rodriguez y Cia., San Ignacio 166
Santeiro y Cia., Mercaderas 13
Graeles y Cia., Sol 59
Alonso y Cia., Inquisidor 402
Framil Garcia Compania, Oficios 12
J. Balsells y Compania, San Ignacio 313
Tauler y Cia., Aguiar 610
R. Palacios y Compania, Arsenal 110
Fernandez Hermanos, Avenida Italia 560
Otero y Compania, Maximo Gomez 517
Pinan Arxer & Company, San Ignacio 566
Max Nazabal y Compania
Hernandez y Fernandez, Sol 57
Juan Sanchez Rodriguez, Inquisidor 516
Llamas y Ruiz, Amistad 417
Perez y Martinez, Santa Clara 8
Moris Rosenband & Company, San Ignacio 709
Bonet y Companis, Inquisidor 518
M. Soto y Compania, Oficios 358
V. Zabaleta, San Ignacio 506

Santiago de Cuba, Oriente

V. Mercado y Compania, Peralejo 654
B. Cuadrado & Company, Aguilera 58
Swift and Company, Lorraine 705
A. Marino y Compania
E. Labrador y Compania, S. en C., Aguilera 53
A. Diez y Compania, Aguilera 2
Mazorra, Garcia y Compania, Aguilera 10

(continued)

APPENDIX XIX

Names and addresses of Cuban importers of canned and cured fish (continued)

Alonso Martinez y Potrony
J. Noto y Compania, Maso 4
Perez, Rodriguez y Compania, Saco 56
Massana y Compania, Aguilera 62
Sobrinos de Abascal, Aguilera 13
Viuda e Hijos de N. Castano, S. L., C. Robert 3
S. Conde y Compania, S. en C., Lorraine 605
Guerra y Duran, General Portuondo 6
Fernandez, Barba y Compania
Armour and Company, Heredia 12
J. A. Garcia y Compania, S. on C., Peralejo 604

Manzanillo, Oriente

J. Teira y Compania
Artime y Compania
V. Gomez y Hermano
Pardo y Compania
T. Pena y Compania
Arias, S. A.

Guantanamo, Oriente

J. Solar y Compania
A. Labrador y Compania
H. Soto y Compania

Palma Soriano, Oriente

Casas y Compania, S. en C.
Garcos y Puente, S. en C.
Gonzalez y Alvarez, S. en C.

Cienfuegos, Las Villas

Viuda e Hijos de Nicolas Castano

Pinar del Rio

Hijos de Pio Ferro

APPENDIX XX

Closed season in 1945-46 and permanent prohibition covering fisheries in Cuba

Kind	Date fishing forbidden
Nassau grouper	Dec. 4, '45 to Feb. 25, '46 Dec. 23, '46 to Mar. 17, '47
	1946
Muttonfish	May 1 to July 23
Lane snapper	April 1 to June 23
Croaker	April 1 to June 23
Irish pompano	March 3 to May 26
Grey snapper, cubereta (lutjanus cubeia), caballerote (lutjanus griseus)	July 28 to Oct. 19
Spiny lobsters, river crawfish and shrimps	March 3 to May 26
Morro crabs	July 28 to Oct. 19
Mollusca (oyster), clams, squid, octopus, etc.)	May 1 to Aug. 20
Chelonians (caguama, carey, and turtles)	May 1 to August 20
Sponges	March 3 to May 26

Permanent Prohibitions

Trout, morro crabs and lobsters may never be caught while spawning.

Fishing of manatee (manatus latirostris), except for scientific organizations, is prohibited.

Because they are considered harmful to health, fishing of the following is permanently prohibited:

Bonaci gato (Mycteropercus cattus)
Morena (Gymnotho funelris)
Tambor (Cheilichys testadineus)
Coronado (Seriola latandi)
Picuda (Sphyraena barracuda)
Tinosa prieta (Carax lugubris)

Bureau of Fisheries, Cuban Ministry of Agriculture.

APPENDIX XXI

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